

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

HEARING #11-11248

DECEMBER 1, 2011

10:30 A.M.

ALLOWABLE EX PARTE BRIEFING

*REQUESTED BY PROGRESS ENERGY CAROLINAS - 2011 Integrated
Resource Plan*

**TRANSCRIPT OF
PROCEEDINGS**

COMMISSIONERS PRESENT: John E. 'Butch' HOWARD, *CHAIRMAN*,
David A. WRIGHT, *VICE CHAIRMAN*; and COMMISSIONERS Elizabeth B.
'Lib' FLEMING, G. O'Neal HAMILTON, Randy MITCHELL, Swain E.
WHITFIELD, and Nikiya 'Nikki' HALL

ADVISOR TO COMMISSION: Joseph Melchers, Esq.

STAFF: F. David Butler, Senior Counsel; James Spearman, Ph.D.,
Executive Assistant to the Commissioners; B. Randall Dong, Esq.,
Legal Staff; Phil Riley and Tom Ellison, Advisory Staff; Jo Elizabeth
M. Wheat, CVR-CM-GNSC, Court Reporter; and Dale Davis, Hearing Room
Assistant

APPEARANCES:

LEN S. ANTHONY, ESQUIRE, along with ***GLEN SNIDER***
[*MANAGER, RESOURCE PLANNING-TRANSMISSION OPERATIONS*
PLANNING] and ***CHRIS EDGE*** [*DIRECTOR, RETAIL STRATEGY and*
EMERGING TECHNOLOGIES], presenters, representing PROGRESS
ENERGY CAROLINAS, INC.

JEFFREY M. NELSON, ESQUIRE, representing the OFFICE OF
REGULATORY STAFF

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

101 EXECUTIVE CENTER DRIVE
COLUMBIA, SC 29210

Post Office Box 11649
COLUMBIA, SC 29211

WWW.PSC.SC.GOV

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*Please note the following inclusions/attachments to the record:
PowerPoint presentation (PDF); 2011 Integrated Resource Plan*

1 **CHAIRMAN HOWARD:** Please be seated. Good
2 morning. Thank you for coming. We'll call this
3 briefing to order, and I'll ask Attorney Melchers
4 if he'll read the docket. Attorney Melchers.

5 **MR. MELCHERS:** Thank you, Mr. Chairman,
6 Commissioners. We are here pursuant to a Notice of
7 Request for Allowable Ex Parte Hearing filed by
8 Progress Energy Carolinas, Inc., scheduled for
9 today, Thursday, December 1, 2011, at 10:30, here
10 in the Commission's hearing room.

11 The subject matter to be discussed at the
12 briefing is: Progress Energy Carolinas, Inc.'s
13 2011 Integrated Resource Plan.

14 Thank you, Mr. Chairman.

15 **CHAIRMAN HOWARD:** Thank you. Mr. Anthony.

16 **MR. ANTHONY:** Good morning, Mr. Chairman,
17 members of the Commission. Thank you for allowing
18 us to appear today and discuss our 2011 Integrated
19 Resource Plan.

20 We are going to ask you to please engage us on
21 three topics, in particular, as we go through this
22 discussion. One is one that's near and dear to
23 your hearts, that Commissioner Wright just returned
24 from Washington on, and that is what is the impact
25 of the environmental regulations that are being

1 contemplated by the EPA on how we plan and operate
2 our system, as well as the costs. We would enjoy
3 talking about that with you, in particular.

4 The second is energy efficiency programs, in
5 particular; meaning, how do we evaluate them and
6 how do we integrate and use them in meeting the
7 needs of our customers. We struggle with exactly
8 how they compete against supply-side resources and
9 how we evaluate the cost-effectiveness of a
10 resource -- of a DSM/EE resource -- deciding when
11 and how to integrate it into the resource plan. We
12 all agree they have to be cost-effective but
13 there's a fairly large debate over how you define
14 cost-effectiveness, so it might be helpful if we
15 talk about how we look at the cost-effectiveness
16 test, and that drives which programs and measures
17 we offer.

18 And then the final thing: Supply-side
19 resources, we all have our bus-bar costs and we say
20 it costs this or it costs that to produce a
21 megawatt-hour from the various resources, but they
22 all have different operating characteristics and
23 capacity factors and fuel supply. Wind and solar
24 are intermittent. Nuclear, a lot of risk
25 associated with building a nuclear plant. Natural

1 gas is cheap right now; how long do we expect
2 natural gas to be cheap, and then what should we do
3 with regard to hedging and how do you factor all
4 that into picking the supply-side resources.

5 All of this is forecasting. It's going to be
6 wrong. So what we're anxious to hear from the
7 Commission, as well as the other intervenors in our
8 docket, is an open dialogue as to how we should be
9 evaluating those various assumptions and inputs in
10 coming up with a plan, because when all is said and
11 done, we're agnostic. We do not have a bias toward
12 any resource other than we want to pick that mix of
13 resources that meets the State's energy policy and
14 that this Commission will allow us to put into
15 rates. We're a pretty basic utility. We want to
16 put those resources that you find prudent so you'll
17 allow us to recover the costs.

18 So with that, we have our two presenters
19 today: Glen Snider, who is our director of
20 Resource Planning; and Chris Edge, who is director
21 of Retail Strategies and Emerging Technologies.
22 And I believe Mr. Snider is going to kick it off.

23 **MR. SNIDER:** Thank you, Len. Good morning,
24 Commissioners, Chairman Howard.

25 [Reference: PowerPoint Slide 1]

1 Thank you so much for allowing us to appear
2 today. It's my pleasure to present Progress Energy
3 Carolinas' 2011 Integrated Resource Plan.

4 We have several slides in our deck today, but
5 we should move through them fairly expeditiously.
6 I would ask that if you have any questions along
7 the way, feel free to interject as we go through
8 these. Of course, we'll have Q&A at the end, but
9 sometimes it can be a little dry just to go through
10 slide after slide. So questions that do come up,
11 please feel free to interject at any point.

12 [Reference: PowerPoint Slide 2]

13 By way of an outline, last year we spent quite
14 a bit of time briefing this Commission on the
15 process of planning that we go through. Rather
16 than represent that in sort of a redundant manner,
17 we've made that a much briefer section, just a few
18 quick slides on the planning process, and then
19 we're going to focus a little bit more on some of
20 the key trends in the planning landscape.

21 The first couple of bullets there, the load
22 forecast, our DSM and EE activities have to do with
23 the demand side of the planning equation, while
24 fuel prices and environmental regulations influence
25 the supply side of the equation. While there are

1 many more inputs into planning, these are just a
2 few of the highlighted ones we'd like to cover with
3 you today. Ultimately then, we'd like to conclude
4 with what is the result of our 2011 Integrated
5 Resource Plan, what are some of the key takeaways
6 from our 2011 plan, summarize some of those, and
7 then, again, finish up with some Q&A.

8 [Reference: PowerPoint Slide 3]

9 So jumping right into the planning process,
10 you know, what is the objective of resource
11 planning. Mr. Anthony just spoke about, you know,
12 we have an objective in planning to reliably serve
13 our customers and meet not only their demand needs
14 but their energy needs in a cost-effective manner,
15 utilizing a balanced mix of both supply-side and
16 demand-side resources. And while that's easy
17 enough to say -- reliability, cost-effective,
18 balanced -- those things can mean different things
19 to different people. So what I'd like to do is
20 unpack those a little bit.

21 [Reference: PowerPoint Slide 4]

22 When we talk about reliability, we have firm
23 obligations. First of all, as a planner, we have
24 to serve our firm retail/wholesale obligations. In
25 terms of a planning reserve, that means carrying

1 adequate capacity, plus reserves, to serve that
2 load. We use a long-term capacity margin of 11 to
3 13 percent. Real quickly, again, capacity margin
4 is the amount of capacity you have in your
5 portfolio, less the load you're obligated to serve;
6 divide that all by capacity. Other people in the
7 industry will use reserve margin. Basically the
8 same formula, except you divide by the load you're
9 serving rather than the capacity on your system.

10 And then we also have to ensure operational
11 reliability. So what we mean there is beyond just
12 planning reserves, we have other reliability
13 criteria, such as fast-start, spinning, what we
14 call operational reserves that we have to maintain,
15 to maintain a reliable electric grid.

16 So these are all reliability factors that
17 we're looking at when we're planning. I will note
18 that going into next year, we are looking at a
19 renewed capacity margin/reliability study. We'll
20 be validating if the 11 to 13 percent is still
21 correct. That may be adjusted as a result of that
22 study. But for the 2011 IRP, that's the capacity
23 margin target we used.

24 **VICE CHAIRMAN WRIGHT:** Mr. Chairman, quick
25 question here. Is the reserve margin -- you

1 mentioned reserve margin is determined one way and
2 capacity margin is determined another way. Is one
3 a better choice to use than the other, or do they
4 -- I mean, you mention they're kind of the same but
5 they're not, so --

6 **MR. SNIDER:** Really, Commissioner, they're
7 interchangeable to the extent that they're both, on
8 the numerator, measuring the amount of excess
9 capacity you have --

10 **VICE CHAIRMAN WRIGHT:** Right.

11 **MR. SNIDER:** -- above your load expectation.
12 And whether or not you divide by capacity or
13 reserves, it's just a nomenclature issue that I
14 think has some legacy implications of where they've
15 evolved. Frankly, as a planner, I'm indifferent
16 because I can transpose one directly to the other.

17 **VICE CHAIRMAN WRIGHT:** That's what I wanted to
18 hear right there. Okay. Thank you.

19 **MR. SNIDER:** "Least cost." Cost-effective
20 sources that meet the load-shape needs. What do I
21 mean by that?

22 Least cost is the minimum present value of
23 revenue requirements of a given plan. If you think
24 about minimizing revenue requirements, you're
25 really minimizing customer dollars per kilowatt-

1 hour. And so to do that, we're looking at each
2 plan and seeing what is that total revenue
3 requirement to serve that plan. The load-shape
4 needs, the reason we put those words in there is,
5 as you're minimizing that, you may need in certain
6 years peaking capacity, intermediate capacity,
7 base-load capacity, so it's not just "I'm going to
8 always build peakers because they're the cheapest
9 dollar-per-kW to build." You have to take into
10 account how much are those units going to run, and
11 what are the economics when you consider their
12 capacity factors.

13 And then "balanced." Flexible and responsive
14 to a customer's needs. So fuel diversity, as Mr.
15 Anthony pointed out. We're going to have some
16 slides on this later, so I won't spend too much
17 time with this, but it's important to maintain fuel
18 diversity so that you're not serving all of your
19 customer needs from one particular fuel source.
20 Environmental responsiveness: In particular, we
21 have to comply with all Federal and State
22 environmental regulations. So each of the
23 different resource alternatives have different
24 environmental footprints. In total, we have to be
25 compliant with all State emissions -- and water,

1 solid waste limits -- that are imposed upon us.
2 And then operational flexibility ties back into the
3 operational reliability, where you have flexibility
4 on your transmission grid.

5 [Reference: PowerPoint Slide 5]

6 So in determining these, we start with what is
7 that firm obligation, plus reserves. So this is
8 the target long- -- this is your long-term need, if
9 you will, say out in the year 2020. From that
10 long-term need on your load forecast, you reduce it
11 by your planned activities in energy efficiency and
12 then load control. So load control programs, such
13 as our EnergyWise Program, our Voltage Control
14 Program for our interruptible customers, where we
15 can temporarily take load off the system, as
16 opposed to an energy efficiency program that has
17 more of a systematic reduction in load -- Chris
18 will talk more about that later.

19 So that gives us down to a net need at some
20 point in the future. To the extent that net need
21 is above your projected -- or, is above your
22 existing resources, you have a projected gap to
23 fill. That can be filled with a variety of supply-
24 side options, including operating your existing
25 units, building new units, purchased power, and

1 renewables.

2 [Reference: PowerPoint Slide 6]

3 So how do we do that?

4 **COMMISSIONER HAMILTON:** Excuse me. On the
5 slide you just left, on the top you've got your
6 demand-side options -- energy efficiency and load
7 control.

8 [Reference: PowerPoint Slide 5]

9 What percentage is that?

10 **MR. SNIDER:** Right now, Commissioner -- and
11 we'll have some more slides coming up on this, so
12 hopefully we'll be able to answer that with hard
13 numbers. We will build to, over the next five
14 years in our plan, over -- I think it's -- 5
15 percent of our total energy. And I'll let Chris
16 correct me if I'm wrong, when we get to that point.
17 And we are looking at a total of, I believe, almost
18 1,600 megawatts over the total planning horizon, of
19 capacity. So basically, a couple of large power
20 plants, in terms of capacity, and 5 percent of our
21 energy, over the next five years. But we'll have
22 some more detail on that, coming forward.

23 **COMMISSIONER HAMILTON:** Thank you.

24 [Reference: PowerPoint Slide 6]

25 **MR. SNIDER:** So this very colorful slide,

1 which can get very busy, really is trying to
2 represent a fairly complex planning process. And
3 really there are several drivers that drive what
4 type of resources and how many resources you're
5 building. And we've named just a few of them there
6 on the far left. So we start by taking individual
7 sensitivities to each one of those drivers
8 independently and saying, "If you vary those
9 independently, how does that change the plans you
10 might pick?"

11 You ultimately get far too many plans to
12 evaluate in-depth, so you consolidate like plans.
13 For example, several of the plans are just slight
14 variations of another, so Plan A might be an all-
15 gas portfolio that's CTs and combined-cycles, where
16 Plan B might be a mix of some gas and some regional
17 nuclear, and maybe Plan C is heavy nuclear
18 including regional and self-built. So when you
19 consolidate into these like plans, you then run
20 scenario analysis against a finite number of plans
21 to see how they perform under various attributes
22 and measures, and then you ultimately come out with
23 a recommended plan that really has the best results
24 across multiple possible future scenarios. And so
25 that's, in a nutshell -- again, to go through this

1 rather quickly, compared to what we did last year
2 -- how we conduct our planning process.

3 [Reference: PowerPoint Slide 7]

4 So I'll pause for a moment on the process, if
5 there are any questions, and if not, we'll move
6 into the some of the trends we're seeing in the
7 planning landscape.

8 [Brief pause]

9 [Reference: PowerPoint Slide 8]

10 Let me start with our load forecast. Load
11 forecast is conducted as a summation of several
12 sectors that are forecast individually. So we
13 start with our residential sector, and there's
14 really two drivers to the residential sector. It's
15 the number of customers and the use per customer.
16 So our load forecasting group runs a regression
17 analysis against population, and I believe use per
18 customer is regressed against personal income as a
19 proxy for use per customer that comes in your
20 regression analysis, and when you get -- the
21 combination of those two drives your residential
22 growth. And we're going to have slides after this
23 that show what's happening with residential growth,
24 but I'm going to go through the process on each one
25 first.

1 Commercial is driven by commercial employment,
2 and what we're seeing in commercial employment
3 drives the load. That's been a regression analysis
4 that's held steady over a period of time.

5 So these first two are done very statistically
6 oriented in nature, and they represent about half
7 of the load. So residential and commercial is
8 about 50 percent of the energy we serve, and we
9 forecast that using statistical methods.

10 You get into industrial, and it's far more of
11 a finite forecasting, where you're actually talking
12 to your industrial customers; you have account reps
13 dealing with each of the customers; you're working
14 back and forth to see are you adding shifts, are
15 you deleting shifts, are you expanding facilities,
16 are you importing jobs, exporting jobs; and our
17 load forecasting group is getting direct feedback
18 from the customer and our customer reps.

19 Same thing with our military bases. There, we
20 have individual account reps for each of the
21 military bases. You have discrete events
22 happening, such as base realignment that, rather
23 than being statistical in nature, are very discreet
24 in nature, so our load forecasting group works
25 directly with the customer and our military account

1 reps to come up with the forecast on our military
2 load.

3 And then wholesale, really there's a couple of
4 different ways we forecast our wholesale load. The
5 very large wholesale customers are large enough in
6 size where they have their own forecasting groups
7 and they simply communicate their forecast to us
8 and we incorporate these forecasts into our overall
9 load forecast. And for some of our smaller ones,
10 we actually work with the customer, the account rep
11 and our forecasting group, to provide forecasts on
12 behalf of the customers.

13 So, by and large, this is probably 95 percent
14 of our load. We do have some small street-light
15 load that's in there, some losses. All of this, I
16 should say, is done at the gross level, so this is
17 before losses and before any DSM and EE activities.

18 [Reference: PowerPoint Slide 9]

19 The results of all this -- and unfortunately,
20 the trends are not pretty -- from a load
21 forecasting perspective, since I've been in this
22 role, we've seen nothing but declines from the
23 economic downturn. You know, we were here last
24 year I think talking about V-shape and U-shape and
25 what type of recovery are we going to have, and

1 we're still having that same debate. So if you
2 look sector by sector, what you will see is
3 continued decline in our load forecast. So year
4 over year over year, from '8 at the beginning of
5 the recession, through today, if you start with the
6 residential, you can see in all cases you've got
7 decline.

8 A couple of points here: Residential and
9 commercial, the two that are done statistically,
10 are fairly straightforward and you can see the
11 results of those forecasts. On the industrial
12 side, there was a point where in '10 we thought we
13 were going to see some industrial recovery; we had
14 some positive indicators. It's important to put
15 that in perspective to number of megawatts, so the
16 drop from the blue line down to the now-red line in
17 2011 is about 50 megawatts. So while there is a
18 decline in industrial, relative to the size of some
19 of the other quadrants, it's not as large as you're
20 seeing in residential or commercial. Wholesale,
21 the steep increase that you see right there in 2012
22 is some new wholesale load that's coming on-line in
23 2013 that wasn't signed up in 2008. So, 2008 did
24 not reflect that load, so you can somewhat ignore
25 the green line. When you go to 2009, '10, and '11,

1 you're seeing a reduction in the wholesale load, as
2 well, with the drop from 2009 -- which is the
3 yellowish line -- down to the '10 and '11 levels
4 that you see there, just at the 4,600 megawatts at
5 the end of the forecast horizon.

6 So what we do in total is add these all up.
7 So you've got what's happening in each of the
8 sectors. We bring them all together, and you get a
9 cumulative load. Before we, you know, show the
10 total, I thought I'd show just a couple of drivers
11 that, while these aren't the exact variables that
12 are used in the regression, I think it's telling.

13 [Reference: PowerPoint Slide 10]

14 If you look at unemployment and think about
15 use per customer being driven by personal income,
16 you've got still very high unemployment, compared
17 to past periods in this decade, both in North and
18 South Carolina. So that is not only weighing on
19 the use per customer, it's also weighing on the
20 number of people moving into our area. The number
21 of children moving out of the home as they graduate
22 college to create their own home and their own
23 electric account is declining as unemployment rates
24 are up. So this unemployment rate clearly is
25 having a drive on electric demand.

[Reference: PowerPoint Slide 11]

When you move into the commercial and industrial sector, also not a pretty picture in terms of, in just three short years, what has happened to GDP forecasts. The lines -- what you're looking at there is a 2000 index, so the 1.0 would be GDP in 2000, and then how was it expected to grow, real GDP, from a 2000 perspective. You see a very significant drop in GDP over that horizon. I think it's about a 10 percent drop on average, in just three years, in GDP forecasts. So that's weighing on that commercial and industrial sector, such that when you put this all together --

[Reference: PowerPoint Slide 12]

-- you do see a total gross demand that we're forecasting for summer, year over year over year, for the last three IRPs to be declining.

And again, a big part of that is the starting point from which we are recovering out of this recession. We still expect long-term we will return to population growth in the Carolinas. By way of example, we've had 25,000 customers a year come into the Carolinas for year after year for a decade. Over the last few years it's been 8,000, 9,000. Last year -- this year, rolling 12 months,

1 it's only 4,000 new customers, compared to 25,000
2 on average. Well, you would think that, long run,
3 that's not sustainable. We will still have
4 population growth. This is still projected to be
5 an economic area that people want to relocate to,
6 so as you come out of this economic downturn we do
7 expect that positive slope. It's just starting
8 from a lower point at the beginning point right
9 now.

10 So I guess the silver lining of this, we do
11 expect a return of population growth to this area.
12 We do expect to have economic growth in the long
13 run. It's just a question of how this recovery is
14 going to unfold.

15 So with all that said, this is all done,
16 again, at the gross level before reducing for DSM
17 or EE. When we plan, as we pointed out earlier in
18 our process slides, we plan to meet net load after
19 DSM and EE. And so I'm going to turn this over to
20 Chris here in a minute, and let him talk about some
21 of our DSM and EE efforts.

22 [Reference: PowerPoint Slide 13]

23 **CHAIRMAN HOWARD:** Mr. Snider, could we ask --
24 could I ask you a question on forecasting before
25 you go to that?

1 **MR. SNIDER:** Certainly, Chairman.

2 **CHAIRMAN HOWARD:** On Slide 8, you mentioned 50
3 percent residential and commercial, but you didn't
4 mention any percentage for industrial, military,
5 and wholesale. Or I didn't catch it.

6 [Reference: PowerPoint Slide 8]

7 **MR. SNIDER:** Yes. So, residential is 28
8 percent of our energy sales; commercial is 22.
9 Industrial is 17; military is 3 percent; wholesale
10 is 27. You will notice those numbers do not sum to
11 100, because all of this is measured at the
12 generator level, so there are some line losses
13 involved, and there's also a little bit of street
14 lighting and governmental sales that aren't in that
15 number, but this is the vast lion's share of our
16 load.

17 **CHAIRMAN HOWARD:** You mentioned also -- I
18 guess page nine would be it. But you've got a
19 tremendous -- you mentioned new wholesale coming
20 on-line, and that will be increasing in '13?

21 [Reference: PowerPoint Slide 9]

22 **MR. SNIDER:** Yes.

23 **CHAIRMAN HOWARD:** What are some of the
24 wholesale accounts that would use that much
25 capacity?

1 **MR. SNIDER:** What this is, Chairman Howard, is
2 the addition of some NCEMC peaking load that I
3 believe they were purchasing in the past -- I
4 believe some from Southern Company, and I'm not
5 sure where the rest of the purchases came. They've
6 rolled that into a requirements contract from
7 Progress Energy Carolinas, and so we will be
8 picking up that load, starting in 2013.

9 **CHAIRMAN HOWARD:** Is it -- and I know what
10 you're going to say, but I'm curious. Progress
11 Energy/Florida plays nothing in this -- I mean,
12 purchased power, anything, any type of affiliate
13 transaction, or anything? Progress/Florida --
14 Progress Energy/Florida has absolutely nothing to
15 do with these slides, wholesale or otherwise?

16 **MR. SNIDER:** That is correct.

17 **CHAIRMAN HOWARD:** Okay, thank you.

18 **COMMISSIONER HAMILTON:** Let me ask -- Mr.
19 Chairman -- just one question, and it's more
20 curiosity on my part. On your growth, your need
21 has reduced for the last three years. But don't
22 you still have a peak day that sets records during
23 the summers?

24 **MR. SNIDER:** Yes, sir. And on the demand
25 slides -- let me go to this slide right here.

1 [Reference: PowerPoint Slide 12]

2 -- this is projected to be that peak demand.

3 **COMMISSIONER HAMILTON:** Right.

4 **MR. SNIDER:** Now, I will caveat that by saying
5 this is peak demand under expected weather
6 conditions. So when we talk about a reserve margin
7 or capacity margin, part of the reason for that
8 extra cushion is to deal with abnormal weather, as
9 well as unit outages. But given normal weather,
10 this would be peak day forecast on slide 12 here.

11 **COMMISSIONER HAMILTON:** Thank you.

12 **COMMISSIONER HALL:** I just have one question,
13 Mr. Chairman. The 4,000 new customers, is that
14 combined in South Carolina and North Carolina?

15 **MR. SNIDER:** Yes, Commissioner.

16 **COMMISSIONER HALL:** And that's in the last
17 just two years, or --

18 **MR. SNIDER:** 12 months, October to October.

19 **COMMISSIONER HALL:** Okay. How about 2009?

20 **MR. SNIDER:** Let me see if I have that number.

21 **COMMISSIONER HALL:** I mean, if you don't have
22 the exact number -- but 4,000 just seems a very,
23 very small number.

24 **MR. SNIDER:** I think we added 10,500 in '9.

25 **COMMISSIONER HALL:** Okay.

1 **MR. SNIDER:** So it is very small.

2 **COMMISSIONER HALL:** Disturbing.

3 **MR. SNIDER:** And that's why we're thinking it
4 will not -- you know, given population growth,
5 economic trends toward this area, that that's not
6 sustainable in the long run.

7 **COMMISSIONER HALL:** Okay. Okay.

8 **MR. ANTHONY:** Mr. Chairman, just to be clear
9 on the wholesale load, NCEMC is the North Carolina
10 association of electric cooperatives. All of that
11 load is in our control area that we are serving.
12 None of it is outside our control area.

13 **CHAIRMAN HOWARD:** Thank you.

14 **MR. SNIDER:** Okay. If there are no further
15 questions, I'll turn it over to Chris to talk a
16 little bit about our DSM and EE.

17 **MR. EDGE:** Okay. Thank you. I thought I
18 would first start -- Mr. Anthony shared with you
19 one of the objectives today was to facilitate some
20 dialogue as to how we choose our DSM and EE
21 programs, and in essence how those result or how
22 those are embedded into our long-term forecasts.

23 [Reference: PowerPoint Slide 14]

24 And I put together this illustration to really
25 walk you through that process, and thought we might

1 take a minute or two to step through this. So this
2 is, by itself, the process that we use to identify
3 programs. It's the same process which we use to
4 identify long-term market potential, and it's
5 completely consistent with the cost-recovery
6 mechanism that we currently operate under and was
7 approved by this Commission.

8 I'll start on the left side and admit to you
9 that this is not a common industry term, that this
10 is a Chris term. But we first start with this
11 universe of measures. And really, the emphasis
12 here is there is no predetermination from the
13 beginning of this process as to what is a good
14 measure or a bad measure. We start essentially
15 with all measures.

16 And we take this through the screening
17 process, and then we next step to a qualitative
18 screen. So we look at this universe of measures
19 from the perspective of the technology maturity,
20 and are they in production or are they just a
21 *Popular Mechanics* article and something still
22 sitting in the garage or the laboratory of an
23 inventor. We then look at climate applicability,
24 as well as demographic applicability. What I mean
25 by demographic applicability is, if we see a

1 measure within this universe of measures that may
2 very well be a measure that's applicable to a 50-
3 story residential dwelling, then that doesn't have
4 a likelihoodness of applicability to the Progress
5 Energy territory -- something more over to
6 certainly a more urban territory. So we take this
7 universe and we've narrowed it somewhat by this
8 qualitative screening.

9 The next step is this screening of measures.
10 And at this point, we are screening these measures
11 from and really determining their economic
12 efficiency. So we again -- we're taking the full
13 participant cost, regardless of who pays for it,
14 regardless of whether there are any incentives, and
15 what we're doing is comparing that full participant
16 cost of that investment towards the deferred
17 supply-side requirements. And the intent here is
18 that we don't want to incorporate into our
19 portfolio any measure by itself that is not
20 economically efficient. We don't think it's
21 prudent on our part to advise and/or promote things
22 to our customers that are economically inefficient.
23 So we've screened these measures at this point from
24 an economic efficiency standpoint.

25 So then we're sort of left with even a more

1 narrow view of measures, and then what we do at
2 this point is we start bundling these measures. We
3 start grouping them according to similarities. Can
4 we leverage similar market channels, are they
5 intended for the same end -- you know, we bundle
6 residential measures together, we look at
7 commercial measures together, and we start forming
8 programs. And in this step in this bundling of
9 measures, we also start -- which is one of the more
10 difficult things to do in the planning process, is
11 to try to provide some projections of what
12 participation would be. Again, all of our programs
13 are voluntary in nature, so we have to take into
14 account what the potential economic impacts would
15 be to future participation. We incorporate into
16 this observations made by other utilities that are
17 running similar programs. We also -- one of the
18 real dynamic parts of this particular part of the
19 screening process is trying to account for what we
20 see on the horizon as far as code changes, so there
21 are a tremendous number of code changes that are
22 being employed by DOE. One that was approved this
23 past week, as an example, that by January 2015, the
24 SEER requirements of HVAC here in the Southeast
25 will increase to what is currently a SEER 13 up to

1 a higher-efficiency SEER 14 unit. So, what you see
2 as a result of that DOE adoption of that code and
3 standard is now what's going to happen, come
4 January 15th, or sometime prior to that because of
5 market dynamics, you're going to see the baseline
6 change, which means inevitably, you know, the
7 overall energy savings reduction from higher
8 efficiency SEER units are going to be diminished,
9 and therefore will either deteriorate or completely
10 eliminate any type of energy savings opportunities
11 that could be accounted for in our utility planning
12 process. They still are going to be -- you know,
13 what's going to happen, in essence, is at that
14 point the energy savings will be transferred to
15 Glen's load forecast rather than showing up in our
16 future projected forecast.

17 So this is the part where we bundle measures,
18 we look at the market potential, and then finally
19 we come to and we do our final cost-effectiveness
20 screening. And in cost-effectiveness, we look at
21 four tests. We look at the rate impact measure,
22 which is sometimes referred to as a nonparticipant
23 view or a nonparticipant test. We look at a
24 participant test. And then the primary test that
25 we use for screening programs at this point are the

1 total resource costs, which is really -- in a very
2 simplistic manner, it's a matter of taking that
3 participant test and you take that nonparticipant
4 test, and you put the two together and you get the
5 total resource cost test, and that's the primary
6 measure by which we measure efficiency programs.
7 And then of course, the utility cost test, which is
8 looking at the economic viability of that program
9 from the purview of the utility.

10 And so we screen those programs and in our
11 approved cost-recovery mechanism, we look at
12 something slightly over 1.0 -- which is 1.05. And
13 then where we've gathered to in the whole selection
14 process is we have this developed portfolio. We
15 have a portfolio of options at this point. And so
16 these are the programs which we've identified and
17 brought before this Commission over the past two to
18 three years and which we are currently operating
19 under, and we've got some other programs we're
20 looking at in the hopper. But what I do want to
21 emphasize is, it does not stop there; this is a
22 continual, perpetual process, because we're out
23 operating these programs over here in
24 implementation, and then we have a very, very key
25 component, which is the continual measurement-and-

1 verification. Are we getting what we had expected?
2 What's happening within the market? Are the energy
3 savings there? So we're back to measuring the
4 original objectives of the portfolio, which were
5 the energy and the demand reductions associated
6 with these, and were they, in fact, cost-effective,
7 and we also look at other objectives of the
8 program, which are we accomplishing the bill
9 savings that are attributable to the programs, as
10 well as what's the impact of rates. And then, you
11 know, what we think is an important component as
12 well, the overall education awareness. So we
13 continue to go back through this cycle on a
14 perpetual basis.

15 I sometimes get questioned: Well what about
16 those technologies that we eliminated from a
17 qualitative perspective? We all read the articles.
18 We see the new promising technologies that exist.
19 You might have eliminated those again, initially,
20 so what happens when they become viable? Well, if
21 you adhere to this process on a very regular and
22 periodic basis, then you pick that up. I mean,
23 each time you move through this loop, you're going
24 to bring back in those new technologies that, in
25 essence, can be incorporated into your portfolio at

1 that point. So the key here is, it's a very
2 defined process, there's no predetermination of
3 measures. And right now, we're screening those
4 programs according to total resource cost and the
5 utility cost test.

6 And I'll pause for a second. I hope we've
7 simplified some of this discussion, but see if, in
8 fact, you have any questions or any comments
9 related to this process.

10 [No response]

11 And what's resulted -- I'll move to the next
12 slide, again, just a brief overview.

13 [Reference: PowerPoint Slide 15]

14 So using this process, we've -- I'm going to
15 highlight the programs that have currently been
16 approved by this Commission, and maybe share with
17 you a little bit about the highlights around each
18 of those initiatives, some of the challenges and
19 opportunities. I'll start on our residential
20 portfolio.

21 EnergyWise Home, Len alluded to earlier;
22 that's our dispatchable load-control program.
23 Since we launched that program in the 2009
24 timeframe, we have -- it was mid-2009 when we
25 launched that program -- we currently have,

1 systemwide, 73,000 participants in the program.
2 We've been aggressively marketing that program.
3 That program, in fact, is one of the programs that
4 is cost-effective across each of those four tests
5 that we shared to you. It's a very important
6 component, as well as our long-term resource plan,
7 as we look at serving the peak demand needs that
8 were alluded to earlier.

9 Just kind of stepping through this -- and I
10 probably won't go through in detail on each of the
11 programs -- Home Advantage is the label we provide
12 to our residential new-construction program. When
13 we designed this program, we were still adding
14 25,000 homes a year. As we just talked about, we
15 have not seen that level of activity, so certainly
16 it's a program that has struggled relative to the
17 original projections of what we had anticipated in
18 it. And as such, recognizing what we think will
19 continue to be current economic challenges,
20 combined with the fact that DOE now is imposing
21 even stricter standards around Energy Star, we'll
22 be coming back before this Commission with a
23 completely revamped new-construction effort that we
24 think will help address all those different factors
25 and provide even greater opportunities for

1 construction starts here in the State of South
2 Carolina. So we're going to look at some
3 prescriptive options there, and we're going to look
4 at some very, very aggressive financial
5 opportunities for builders to look at whole-house
6 new-construction opportunities, as well, that are
7 no longer tied to that DOE Energy Star Program.

8 The Home Energy Improvement Program is the
9 program that we have -- that's the program that's
10 available to all our residential customers. We
11 have rebates for HVAC, for windows, for other types
12 of -- duct sealing and testing. The program's
13 really on par with our forecast. We've had, to
14 date, over 52,000 participants in the program.
15 Just a side note, the person that actually manages
16 that program resides in Sumter, South Carolina. So
17 he manages the entire program across our Carolinas
18 portfolio.

19 The Residential Lighting Program continues to
20 be, very much like any other utility around the
21 country, a very key component and driver for energy
22 savings within the DSM and EE portfolio. For us,
23 to date, since the inception of our portfolio, it
24 accounts for roughly 47 percent of our total
25 overall energy savings within the program.

1 I shared with you some details about this
2 before. This program is very wide in its reach and
3 one of the very encouraging things is that it's
4 applicable really to all of our customers,
5 regardless of income, regardless of location. It's
6 available in over 400 different retail locations
7 across the service territory, over 45 different
8 retail locations in South Carolina, and those
9 extend from big-box home improvement stores to your
10 major discounters to Goodwill locations where we
11 have availability for people to participate in this
12 program with very low-cost, first-cost type
13 opportunities.

14 So, again, a program we've leveraged to a
15 tremendous amount of success to our customers, as
16 far as generating overall bill savings, but also
17 one that -- again, that comprises 47 percent of our
18 savings, but as I alluded to earlier, DOE changes.
19 We know that the EISA standards were adopted that
20 start to go into phased effect between 2012 and
21 2014, and that's the Energy Independence & Security
22 Act, which imposes higher, more stringent standards
23 on residential lighting. So I think all utilities
24 and utility planners, and DSM and energy efficiency
25 planners are all really trying to anticipate what's

1 really going to happen as a result of those
2 changes. Is that automatically going to make the
3 CFL bulbs the default bulb of choice? We know that
4 the major lighting manufacturers are out designing
5 new incandescent type technologies that will meet
6 the EISA standards. You know, so again, another
7 purpose of that continual, perpetual process of
8 continuing to look at technology, its availability,
9 and its cost. But a lot of success out of that
10 program, thus far today.

11 We have an Appliance Recycling Program which
12 encourages the customers to dismiss the use of
13 their secondary beer refrigerator. We've been
14 successful in targeting over 9,000 participants in
15 that program. And if you'll recall, we not only
16 remove the refrigerator from use, but we also
17 dispose and recycle up to 95 percent of the
18 components associated with that refrigerator.

19 We have a Home Comparison Report Program that
20 this Commission approved earlier this year, that's
21 really intended -- it's targeted towards -- it's a
22 direct-mail to customers that really allow them and
23 we provide comparisons of how their usage looks
24 towards their neighbors. It's intended to be a
25 behavioral component driven program which people

1 drive under their own accord a decision to reduce
2 their usage, and they're able to base that and
3 compare that to their neighbors.

4 And we also had, very early in the promotion
5 of our portfolio, a Residential Solar Hot Water
6 Heating Pilot. That pilot is about to come to
7 finality. We're towards the end of the intended
8 study. And what we had focused on there was
9 looking at solar hot water heating technology as a
10 potential energy efficiency technology. There's a
11 lot of uncertainty as to what the true energy
12 savings were, what the real demand savings, and
13 moreover, how much -- you know, what's the real
14 participant cost associated with that. So we'll be
15 evaluating the results of that pilot at its
16 conclusion, and then making a determination as to
17 whether that's something we can look at within our
18 portfolio on an ongoing basis.

19 Low income, this is obviously a very, very key
20 component of our efforts within our entire
21 portfolio. It's -- our Neighborhood Energy Saver
22 Program is one that has tremendous documented
23 success. Far exceeded the expectations over than
24 when we originally launched the program. It's been
25 recognized within the industry as a best practice.

1 We're obviously -- we understand that; we're
2 contacted by many utilities. But if you'll
3 recount_[sic], that's a program where we literally --
4 we go down the streets, we knock on doors within
5 identified neighborhoods that have a certain
6 density of low-income population based on poverty
7 levels. And once we, through the agreement of the
8 customer, we ingress the home, we're there
9 installing measures and we're there providing one-
10 on-one consultation with the customers.

11 When we launched this program, we had some
12 framework of it in place in Florida, and at the
13 time had roughly -- within identified
14 neighborhoods, we were expecting, based on best
15 accounts, somewhere between 50 and 60 percent
16 participation, is what we were expecting. We've
17 operated this program over two years now; we're
18 getting 86 percent participation within identified
19 neighborhoods. So we don't take full credit for
20 that, because the way and the premise on which that
21 program works is we engage community leaders --
22 whether they're mayors, whether they're
23 politicians, whether they're church leaders;
24 community leaders are defined different by the
25 communities in which they serve. They're there to

1 be a supporter, and we are there to be a provider
2 of these services, as well.

3 Specific to South Carolina, we've completed
4 786 homes in Florence, 549 in the Marion area. Our
5 crews are currently in the Dillon area in an 1,100
6 home neighborhood that we intend to complete by the
7 end of December. And we'll be kicking off a new
8 initiative on January 4th in the Kingstree, South
9 Carolina, area. So to date, over 30 percent of the
10 homes that we have reached -- which are over 9,000
11 on a system basis, but over 30 percent have been in
12 the State of South Carolina with this program.

13 **VICE CHAIRMAN WRIGHT:** Question.

14 **MR. EDGE:** Yes.

15 **VICE CHAIRMAN WRIGHT:** How long does it take
16 you to set that up, to make the introductions and
17 get, you know --

18 **MR. EDGE:** That's a great question. Really,
19 we start -- we've identified these neighborhoods
20 and we've identified the parameters. So several
21 months in advance of actually entering the
22 neighborhood and physically doing work, we began to
23 identify and contact our community leaders. We
24 leveraged the relationships that we had through our
25 community relation managers. And then what happens

1 as far as the process, then we begin by providing
2 direct mail to identified customers who are able to
3 participate. And what we're doing is we're
4 notifying of the program, but we're also inviting
5 them to a community event. So we have a community
6 event at the very beginning of these, at which we
7 serve a barbecue dinner and we go over the program,
8 and we try to ingrain trust within the customers,
9 telling them what it is exactly we're going to be
10 doing. So this is a couple of weeks prior to the
11 launch of the program. Then, as we get a week
12 away, we begin by hanging door hangers on customers
13 who are participants, saying, "We're going to be in
14 your neighborhood, and we're going to be available
15 to actually perform this service on your house on X
16 date, between the hours of..." We've also, by that
17 point, as well, have put signs at the corners of
18 the streets within the neighborhood to say, "Hey,
19 Progress Energy's going to be in the neighborhood,"
20 and "Call this question_[sic]" so if a customer can't
21 be there on that specific date -- and I think this
22 is one of the very, very key reasons we've been
23 successful in getting that 86 percent penetration
24 rate -- then we work with that customer. Okay?
25 We're not going to confine you to only that, but

1 if, by chance, you're at work and you can't be
2 there, or can't make accounts for it, then we'll
3 allow you to call and we'll come back and schedule,
4 and we'll try to accommodate the needs of the
5 customers. We'll come back on Saturday, if
6 necessitated, as well.

7 **VICE CHAIRMAN WRIGHT:** Very grassroots.

8 **MR. EDGE:** It's a very, very grassroots
9 effort.

10 So when we launched this, the types of
11 measures were what I would refer to as -- when we
12 launched, it was in and around the time that the
13 stimulus money had been approved and the states had
14 been provided some very large weatherization funds,
15 and we certainly didn't want to compete with other
16 available funds that were available for this
17 marketplace. Those are starting to come -- and I
18 think each of the states will wean themselves of
19 those funds here over the next year or two. So,
20 when we look at this, I think this is a
21 tremendously opportunistic area for the utility to
22 pursue low-income, leverage this type of success
23 and say, "What else can we do?" If we're getting
24 an 86 percent penetration rate, if we're having the
25 opportunity to spend the one-on-one time with our

1 customer, then what are those other harder-hitting
2 measures that we can provide to support the needs
3 of our communities that are stressed relative to
4 poverty or income issues.

5 But to answer your question, it starts many
6 months in advance. It then starts with the
7 community leaders for just a couple months. We
8 start engaging customers several weeks prior to.
9 And then, as an example, if we're in an 1,100 home
10 community, we'll be in that community for almost
11 three months. It takes us three months. So we're
12 there, we're present, we're actually a part of the
13 community for three months.

14 **VICE CHAIRMAN WRIGHT:** Okay. Thank you.

15 **COMMISSIONER FLEMING:** Now, how is this
16 program funded? Is this through the ARRA --

17 **MR. EDGE:** No, this --

18 **COMMISSIONER FLEMING:** Is ARRA a part of that?

19 **MR. EDGE:** This program is funded through our
20 DSM and cost-recovery clause. It was one we
21 brought before the Commission and it was approved,
22 so it's funded through our clause.

23 **COMMISSIONER FLEMING:** So this can be self-
24 perpetuating, then.

25 **MR. EDGE:** Sure.

1 **COMMISSIONER FLEMING:** It's not dependent on
2 any outside funding.

3 **MR. EDGE:** That's correct. The funding comes
4 entirely through our clause. This is one that we,
5 when we requested approval from the Commission, we
6 bypassed the opportunity for incentives. We said,
7 "You know, it's the right thing to do." We
8 bypassed -- if you'll recall, we have a performance
9 incentive that's available for some of our other
10 efficiency programs, but -- but it's funded through
11 this clause.

12 **COMMISSIONER FLEMING:** Let me just ask
13 something. You know that I'm in full support of
14 demand-side management --

15 **MR. EDGE:** Sure.

16 **COMMISSIONER FLEMING:** -- and energy
17 efficiency measures. I think it's very much
18 needed. But we're hearing about the load forecast
19 going down. Are we -- does this play into that?
20 I'm sure it has to, because you're saving energy,
21 electricity. So the real question is, the more
22 successful you become with these measures, is
23 keeping the company whole as the use of electricity
24 goes down, right?

25 **MR. EDGE:** That's exactly right. And I think

1 that's largely to the point Mr. Anthony made
2 earlier about meeting the objectives and the
3 policies of the State when, in essence, our desire
4 as a utility is to adhere to those policies that
5 have been established by the State but also meet
6 the needs of our customers in a reliable -- and a
7 manner that is cost-effective, and at the same time
8 allows the company to continue to make earnings
9 that provide value to our shareholders. And it's a
10 very complicated equation. And yes, it does; it
11 has a diminishing effect on our ability to provide
12 future sales, as a result of these efforts. And I
13 think that's one that personally needs -- that
14 stays in continuation of the decisions that
15 policymakers like yourself have to continue to make
16 and we have to work together to address those types
17 of issues.

18 That specifically -- some of that, to a
19 degree, has been addressed, because there was a
20 lost revenue adjustment mechanism that was approved
21 by the Commission as part of our cost-recovery
22 settlement to help address some of the issues which
23 you describe. So I think, on a future-looking and
24 forward-looking basis, should they have even larger
25 impacts, those are the type of things we have to

1 keep and maintain in the dialogue.

2 **COMMISSIONER FLEMING:** The whole picture has
3 to be there, depending on --

4 **MR. EDGE:** That's correct.

5 **COMMISSIONER FLEMING:** -- if that's the result
6 that you want, which certainly seems plausible to
7 me, you have to keep that whole picture there to
8 maintain the stability of the company.

9 **MR. EDGE:** Yes.

10 Anything you want to add, Glen? We're going
11 to give you a little bit of reflection as to what
12 we see in the long-term forecast basis of these
13 impacts. But did you want to add to that?

14 **MR. SNIDER:** No, I would concur with what
15 Chris said. As you think about it, as you defer
16 more and more generation, there is a diminishing
17 return of scale that you have to put in that
18 complex equation Chris mentioned. So as he goes
19 through that perpetual loop of looking at these, as
20 you reduce the next bundle of DSM, it may not look
21 as good as that first bundle did, as you head
22 further and further down that load forecast. So
23 that's something that, in this perpetual nature of
24 how we do portfolio planning for DSM and how that
25 integrates into the Integrated Resource Plan, we'll

1 be taking into account.

2 **COMMISSIONER FLEMING:** But factoring in the
3 savings of the generation of it, too --

4 **MR. SNIDER:** Absolutely.

5 **COMMISSIONER FLEMING:** -- helps balance it
6 out.

7 **MR. SNIDER:** Yes, ma'am.

8 **MR. EDGE:** So I would expect that, in the
9 future planning horizon, we'll be coming back
10 before the Commission and you'll see -- absolutely
11 see our intent of looking at ways we can capitalize
12 on this tremendous success we've had in our low-
13 income communities and further expand on that
14 success. And that's certainly something that's on
15 our radar screen in the short planning horizon.

16 Certainly, we have energy efficiency
17 opportunities to our business customers, as well.
18 We have an overall comprehensive program for all of
19 our nonresidential customers, and that's a program
20 that, while it only fills one line of description,
21 it's comprised of about 80 different prescriptive
22 measures and a custom measure. And by the very
23 nature of the custom measure, really what's
24 depicted in that energy efficiency program is, we
25 will incent any measure and have the capability to

1 incent any measure that is cost-effective for our
2 nonresidential customers today. So if we don't
3 have a prescriptive measure that maybe addresses a
4 specific light or a specific HVAC opportunity, then
5 we have an ability through this custom program to
6 take that opportunity that's presented to us and/or
7 developed with us, run it through the screening,
8 and provide a very aggressive incentive to
9 encourage that energy efficiency investment.

10 That business program by itself constitutes
11 about 27 percent of our -- excuse me -- over 30
12 percent, 31 percent of our total energy savings
13 since the inception of our portfolio.

14 One of the challenges -- while that program is
15 available to all of our nonresidential customers,
16 one of the challenges of operating the portfolio is
17 really what I refer to as a hard-to-reach business
18 customer. And I might describe that as a small
19 business owner in a strip mall shopping center
20 that's not going to have that direct account
21 management relationship with us, that quite frankly
22 is probably not going to be too concerned with
23 energy usage, is probably going to be more
24 concerned about cash flow and whether or not my
25 employee's going to show up at 3 o'clock like they

1 were supposed to. So there are a lot of -- and
2 very likely, doesn't own the facility, so if they
3 make any type of infrastructure investment, they're
4 only going to be able to make the enjoyment of the
5 payback for the time of which they're leasing the
6 space. So it's a very hard-to-reach market, with a
7 lot of barriers that exist relative to providing
8 energy efficiency opportunities. We recognize
9 that.

10 We are currently in the latter part of a
11 staged program for small business owners that's
12 called a Direct Install Program that we'll be
13 bringing before the Commission the first quarter of
14 next year, which is intended to -- in somewhat of
15 an analogous manner to the NES Program, we show up
16 to the business owner, we have a -- we do an
17 inspection and review and an audit of the facility,
18 we identify those real high opportunities for
19 energy saving. And by the time we leave, if the
20 business owner is content with it -- it's not a
21 free service, but it's a very, very high-leveraged
22 incentive program. But by the time, if there's
23 consent from the business owner at that point,
24 we'll go ahead and we'll have an install date which
25 we'll come by and supply and install those

1 measures. So it's called a Small Business Direct
2 Install Program, which is addressing a market need
3 -- not an end-use technology need, because we've
4 identified it and it's available there, but this is
5 to address the market barrier need, so it will be
6 another program we have.

7 We have a Demand Response Program for our
8 nonresidential customers, again, a dispatchable
9 program.

10 And then I'll make note of our grid
11 modernization efforts. This is obviously a
12 tremendous program that doesn't require voluntary
13 participation. But these are the -- this is the
14 peak demand reduction program through the equipment
15 and technology advancements. In 2012, that
16 contributes to 241 megawatts of dispatchable
17 capabilities that we've added to the system over
18 the past three to four years, as a result of that
19 initiative.

20 [Reference: PowerPoint Slide 16]

21 So --

22 **VICE CHAIRMAN WRIGHT:** So --

23 **MR. EDGE:** I'm sorry.

24 **VICE CHAIRMAN WRIGHT:** -- quick question, on
25 that last slide.

1 [Reference: PowerPoint Slide 15]

2 Some of the seminars and things that you go to
3 -- I think EPRI has been looking and talking,
4 pushing, developing, whatever, at the utility site,
5 plant site, or at substations. I mean, there's a
6 certain amount of power that you use to operate
7 your substation or operate the power plant itself:
8 lighting, and you've got line losses and things
9 like that. There's been a lot of innovation in
10 things to make it more efficient on the utility
11 side of things. Is that factored in this at all?

12 **MR. SNIDER:** Commissioner Wright, the DSDR is
13 exactly that. It's not ingressing the customer
14 home, it's not voluntary -- as Chris said -- it's
15 at the distribution level.

16 **VICE CHAIRMAN WRIGHT:** Right.

17 **MR. SNIDER:** At the substations themselves.
18 It's where you have a way to automatically reduce
19 voltage for a temporary period of time to divert
20 megawatts from that time period. It provides a lot
21 of benefit not just in peak-shaving for planning
22 reserves, but if we have instability on the grid
23 and we need to provide megawatts quickly --
24 normally what we call fast-start reserves, which
25 are operating reserves. Without a program like

1 this, you might have to have a peaker up and
2 running, at a very inefficient state, waiting to be
3 ramped up and, really, ready for a contingent
4 event. This program can displace that peaker, be
5 there, using the smart grid technology such that,
6 if you have an event -- and we've seen this this
7 year where we've had events and we've run that
8 program for 14 minutes. Well, that 14 minutes
9 isn't the value of the program; the value of the
10 program was, all day long we didn't have a peaker
11 sitting there running at its worst possible heat
12 rate waiting for that event. We could turn that
13 on, operate it 18 minutes, turn it back off, and be
14 back ready again for the next event. So in
15 addition to planning reserves, you also get
16 operating reserves out of that DSDR program that
17 makes it a very utility-side efficient program.

18 **VICE CHAIRMAN WRIGHT:** Okay. I've heard
19 numbers, depending I guess on whether it's
20 transmission or some other unit that -- or part
21 that you operate, that it could be as much as 8
22 percent that's out there that you could recover or
23 recapture. And I don't know -- I wish I had the
24 paperwork with me, but it's really interesting, the
25 technology that is unveiling, I believe you all are

1 embracing, and I'm glad to see it, you know,
2 because more and more type things are getting
3 really tight now. And as things like your SEER
4 ratings and things become even more efficient, your
5 opportunity to control those volunteer programs is
6 going to be more impactful to you and could be a
7 problem, so --

8 **MR. SNIDER:** [Nodding head.]

9 **CHAIRMAN HOWARD:** I've got a question. I
10 really was sort of skeptical about it, but do you
11 have a cost for -- we're talking about percentages,
12 which really I can't relate to. I mean, do you
13 have a dollar figure? Is this program cost worth
14 it? I mean, how much actual dollar savings can you
15 see generated by the program versus the cost of the
16 programs?

17 **MR. EDGE:** Is there specifically a program
18 that you're referring to, or the whole portfolio in
19 general?

20 **CHAIRMAN HOWARD:** The whole concept of energy
21 efficiency. All the energy efficiency programs,
22 you know, approved by us.

23 **MR. EDGE:** That's a -- to answer the question,
24 yes. When we -- we'll go back to the first slide
25 -- go back for reference. I mean, that's the

1 purpose of the economic test, of those four tests.

2 [Reference: PowerPoint Slide 15]

3 And so, depending on the view of which you --
4 the perspective with which you sit, as you're
5 running those tests, they could and they couldn't.
6 And let me give you an example. You could take one
7 of these programs -- let's take the Residential
8 Lighting Program for -- I'm not picky. Let's just
9 take an energy efficiency one; I don't mean to pick
10 on one. That is a program that passes the total
11 resource cost test with flying colors, as well as
12 the utility cost test, but fails the rate impact
13 measure. So in both the -- so what that's saying
14 is, from a utility cost test, from a revenue
15 requirement basis, it is more cost-effective for
16 the utility to pursue -- and has been verified --
17 we'll assume, as well, that this has been verified
18 by M&V. It is -- the revenue requirements are
19 lower, from a utility view, to pursue that energy
20 efficiency program versus the supply-side
21 alternatives to serve that energy and capacity.
22 Now, that's from the utility cost test perspective.
23 From the participant test perspective, yes, payback
24 is probably about six months on that program, if
25 they participate on the program. As long as they

1 turn the light bulbs on, then they're going to see
2 that energy savings and, as a result, they're going
3 to see the bill savings that are going to offset
4 any type of personal investment they had.

5 So we've taken care of the participant, we've
6 taken care of the utility as to trying to answer
7 that question do the benefits exceed the costs.

8 From a total resource cost perspective -- let
9 me move to the nonparticipant test before I go to
10 the total resource cost, because I told you that's
11 really just a combination of the two. Now the rate
12 impact measure, again, is from the purview -- and
13 the way I always like to think of it -- from the
14 nonparticipant. So Mr. Snider went over and bought
15 himself a dozen CFL bulbs at the Home Depot as a
16 result of our program and installed them all.

17 **MR. SNIDER:** I did.

18 **MR. EDGE:** But my grandmother didn't. So my
19 grandmother is going to be looking at -- the
20 purpose of that rate impact measure is to look at
21 it from a nonparticipant view. So my grandmother
22 didn't; she likes incandescents, for whatever
23 reason. She's a sweet lady; we won't make any
24 assumptions of why she did or did not participate
25 in it. However, we're looking at it from her

1 purview. Since she didn't participate in the
2 program, the costs actually exceed the benefits
3 because what's happened is you've reallocated the
4 revenue requirements associated and so she now has
5 no bill savings to offset the revenue requirement
6 reallocation and subsequently her rates have gone
7 up.

8 **CHAIRMAN HOWARD:** Right. That was my
9 question.

10 **MR. EDGE:** And as a result of her rates going
11 up and that she wasn't a participant, her bills
12 have also gone up. So my poor grandmother now has
13 her bills that have gone up, but his bills have
14 gone down.

15 So now I'm going to come back and look at it
16 from a societal view. I'm going to put Glen and my
17 grandmother and I'm going to put the whole pool of
18 our other 1.2 million customers together and I'm
19 going to look at it from the total resource cost
20 test. What that's viewing is, on an overall basis,
21 bills went down. But we just recognized that rates
22 go up. So bills have gone down in overall
23 perspective, which means that the benefits, in
24 essence, have exceeded the costs of the program.
25 But depending on whether you participated or didn't

1 participate, you could have variances as to whether
2 the benefits exceeded the costs.

3 **CHAIRMAN HOWARD:** I guess I'm looking at it,
4 you come in for a rate case. You want cost
5 recovery on an energy efficiency program. What do
6 I see to allow this cost recovery? Where do I see
7 the savings? How do I know, in the generation mix
8 or any kind of generation portfolio, that there's a
9 reduction in there that would justify the cost of
10 this program? I think -- and it's in simple terms.
11 I think of barbeques for communities, I think of
12 the personnel out there, you know, your people out
13 there spending time in the community. You know,
14 the cost of the bulbs. The program is not
15 mandatory, except for industry, I guess. Everybody
16 is paying this additional fee, whatever it is, for
17 the energy efficiency program. Sitting in a rate
18 case when you come to us, how do I know where I
19 stand as economic regulator, in evaluating the
20 program.

21 **MR. SNIDER:** I would say, Chairman Howard,
22 from my perspective, to the extent these programs
23 must pass the utility cost test and M&V will verify
24 -- measurement-and-valuation will say -- not only
25 on a forward-looking basis but on a retrospective

1 basis that these are cost-effective programs, the
2 simplest way of thinking about that is, the cost of
3 the supply-side alternatives that would have had to
4 be built but for these programs would have been
5 more expensive. So the cost-effectiveness tests
6 that are required, to achieve cost recovery, are
7 set up such that it must be cheaper to engage in
8 these programs than the supply-side alternatives,
9 and that you will do M&V after the fact to ensure
10 that that is truly the case; and therefore, they
11 are allowable.

12 Now Chris screens out a bunch of programs for
13 measures that are not cost-effective. So in this
14 array of DSM and EE programs that he's just shared
15 with you that are in the portfolio, there are five
16 probably for every one, that didn't make it into
17 this list because they didn't pass the test that
18 Mr. Edge just spoke about. So as long as they are
19 passing those utility cost and the TRC tests that
20 Chris spoke about, I believe that you're on good
21 stand to say that this is an allowable expense
22 within a rate case type of proceeding.

23 **CHAIRMAN HOWARD:** Okay, thank you.

24 **MR. ANTHONY:** Mr. Chairman.

25 **COMMISSIONER HAMILTON:** Let me -- if I could,

1 let me put this out, Mr. Anthony. This is
2 following the question that the Chairman asked.
3 Let me ask the question another way. You're
4 involved with North Carolina with mandates for
5 these programs. At this time you aren't, in South
6 Carolina. Answer it from the fact that you've got
7 to do it, instead of it's the right thing to do.

8 MR. ANTHONY: We don't have any mandates for
9 DSM/EE in --

10 COMMISSIONER HAMILTON: You don't?

11 MR. ANTHONY: -- North Carolina.

12 COMMISSIONER HAMILTON: I thought you had --

13 MR. ANTHONY: Only for renewable generation.
14 We don't have --

15 COMMISSIONER HAMILTON: Well, renewables --

16 MR. ANTHONY: -- any mandates for DSM.

17 COMMISSIONER HAMILATON: -- are good. We'll
18 get to the same place.

19 MR. ANTHONY: The renewable generation has to
20 compete against the gas and nuclear stuff in
21 generation, but they're not competing against the
22 DSM.

23 COMMISSIONER HAMILTON: Well, I understand
24 that, but what is the fact on renewables? How much
25 more expensive are they than the normal generation?

1 **MR. SNIDER:** Well, one of the ways to think
2 about that is they're the amount above -- a couple
3 of points. One is, there is a cost cap, and that
4 cost cap measures the extent to which renewables
5 cost more than traditional. So you have a mandate
6 to have a certain percentage of renewables as part
7 of your portfolio, but that mandate is subject to a
8 cost cap. That cost cap is saying "How much more
9 is the renewable than the traditional resource, and
10 don't spend more than X on that." That can be seen
11 in the total cost of the RECs. Now, I don't have
12 those dollars with me today, but they're clearly
13 delineated in how much you're paying toward that
14 cost cap; it's the amount above what we call the
15 avoided cost, which is the traditional generation
16 alternative.

17 **COMMISSIONER HAMILTON:** So the cap is where
18 you --

19 **MR. SNIDER:** Is the amount you could look at
20 to say, "Here's how much above traditional
21 generation renewables are costing."

22 **COMMISSIONER HAMILTON:** Has the cap turned
23 into the goal instead of the --

24 **MR. SNIDER:** It's the lesser of. So you
25 either first hit your specific volumetric goals as

1 a percent of total retail energy. You do that so
2 long as you don't violate the cost cap. If you
3 can't meet those volumetric goals because of the
4 cost cap, then you stop at the cost cap.

5 **COMMISSIONER HAMILTON:** Well, I just notice --
6 not any particular company, but I've noticed
7 programs that started and stopped, with a great
8 deal of money being invested in renewables, and
9 then walking away from it. This seems like
10 sometimes we put reaching goals above technology to
11 find out what's the right way to get to where we
12 need to be, to see what we should be doing.

13 **MR. SNIDER:** I think that's a fair comment,
14 and I believe that's why our caps and our goals are
15 measured as a small percentage, and growing, and
16 subject to the technology proving themselves out.
17 And also -- again, not our renewable expert; we
18 don't have that person with us today. But dealing
19 with them quite a bit, I understand that they will
20 not contract for and start to pay for, from the
21 utility perspective, both, renewable technologies
22 until they're proven out within an RFP process as
23 engineering viable, financially viable, permits are
24 in place. So a lot of times the walk-away's at the
25 peril of the developer and not at the peril of the

1 utility.

2 **COMMISSIONER HAMILTON:** Okay, thank you.

3 **MR. ANTHONY:** I'd like to throw a little
4 gasoline on the fire to get this debate going a
5 little further, since that's why we're here. On
6 the utility cost test, Mr. Snider said when we look
7 at the cost that the utility avoids from the
8 supply-side perspective, against the cost of the
9 DSM or the EE program -- okay? But then that leads
10 to the debate over, well, what cost -- what is
11 included in each of those pots of cost? Because we
12 look at it from a bare-bones "What would I actually
13 have avoided in direct cost, including required
14 environmental compliance but nothing more?" Then
15 we look at just the costs that we spend on the
16 program.

17 There are other points of view out there that
18 foster this debate that we don't include all the
19 costs that we should in those two buckets, and that
20 sort of leads us to why there's not unanimity on
21 what programs should be offered.

22 And then -- God bless you, Commissioner
23 Hamilton, on the renewable -- renewable costs are
24 coming down. Wind and solar, that cost per
25 megawatt-hour generated is coming down. It is.

1 But both of them are intermittent. They only
2 produce when the fuel is available, i.e. wind and
3 gas -- I mean -- solar.

4 **MR. SNIDER:** Sun.

5 **MR. ANTHONY:** So how do we factor that into a
6 resource planning process so that the lights don't
7 go out when the sun isn't shining or the wind's not
8 blowing? Because we get into this debate over,
9 "Well, wind is now cheap." You know, I think our
10 RFPs for wind power to meet the North Carolina
11 requirement, we are getting some very attractive
12 prices for wind/kilowatt-hour. But we can't
13 dispatch it, you know? It comes when it comes and
14 it doesn't come when it doesn't.

15 So that's what we're trying to get everybody
16 thinking about and debating, and including the
17 other parties. How do we do that? We don't have
18 anything against solar and wind. We love it.
19 They're almost zero O&M and they're all capital.
20 What a great investment for a utility. But we've
21 got to figure out how to run them so that the
22 lights don't go out when the fuel is not there. So
23 I would beg for these two folks to pontificate upon
24 those issues, and Commissioner Fleming, I'll shut
25 up now.

1 **COMMISSIONER FLEMING:** Well, I was just going
2 to say, that's where innovation comes in, and the
3 storage units are being moved forward on, so that
4 they can. But what I haven't heard today in this
5 equation -- I would prefer the words "clean energy"
6 to "renewables." And we are -- we have committed to
7 nuclear in this State. It is not inexpensive,
8 though. Over the long run, it pays off, but it's
9 very expensive, too, probably one of the most
10 expensive in the beginning. But I think clean
11 energy will pay off long-term, regardless of what
12 type of fuel you use.

13 [Brief pause]

14 **CHAIRMAN HOWARD:** You want to continue? We're
15 not going to solve this debate today, I can tell
16 you that right now. We'd be here --

17 **MR. EDGE:** When I put together --

18 **CHAIRMAN HOWARD:** -- till 2030, doing that.

19 **MR. EDGE:** -- this slide -- I didn't
20 anticipate this slide would create so much
21 discussion, but we're certainly encouraged, and
22 that was the objective, as Mr. Anthony shared with
23 you from the beginning. That's one of the primary
24 three objectives, to begin that dialogue, and
25 certainly we won't solve it during this briefing

1 today.

2 **COMMISSIONER FLEMING:** And I just want to --

3 **MR. EDGE:** Sure.

4 **COMMISSIONER FLEMING:** -- say, one of the
5 things that I haven't -- if you really are giving
6 -- as a result of the Chairman's question, it's
7 really -- the message needs to be out there of what
8 incentive it is to do energy efficiency measures,
9 as compared to sticking to the traditional way of
10 doing things. Because you're saying it's cheaper
11 energy for them, right? Cheaper electricity costs?

12 **MR. EDGE:** In that example which I provided
13 you, it's cheaper to Mr. Snider, but what about my
14 grandmother? So again, it's a very complicated
15 equation. From the utility cost test, from the
16 revenue requirement, yes, we just admitted we ran
17 the test, we did the M&V, and it's absolutely, from
18 a revenue requirement basis. But then you get down
19 to the granular policy questions about, you know,
20 who is paying for it, and is there cross-
21 subsidization as a result of operating a program
22 that's voluntary in nature, that may not provide
23 the overall rate reductions. They're very
24 difficult questions you have to deal with.

25 **COMMISSIONER MITCHELL:** Yeah, I have a

1 question. Then, don't you get then to -- what was
2 actually required and what's not, then you're
3 coming back to mandates, right? You're talking
4 about you grandmother. Well, if your grandmother
5 had to do it, she would have done it. Doesn't that
6 part become part of the equation, how much is
7 required, and the changing of the laws is very
8 specific there? If it was a requirement that your
9 grandmother had to do it, well, she'd have saved,
10 too.

11 **MR. EDGE:** Abso- --

12 **COMMISSIONER MITCHELL:** But, is it always
13 economically viable to do it? All the years I've
14 sat over here -- and great, good information to
15 hear that it's coming down. Until now, I don't
16 think that happened. You know, always been my
17 point, people struggling to pay power bills, as we
18 go out and hold hearings, if it isn't economically
19 viable to do -- and if it is economically viable,
20 then mandate it. But if it's not -- you know, that
21 puts us in a most difficult position.

22 [Reference: PowerPoint Slide 16]

23 **MR. EDGE:** Okay. I just want to give you a
24 perspective of -- the, really, point of this slide
25 is it's based on our forecast, based on the

1 discussion we've had here today, on our approach to
2 screening, as well as the program activity we have.
3 When we look across the forecast period, we
4 continue to see an increase in the trends
5 associated with cost-effective energy efficiency,
6 according to the screening process which we shared
7 with you. And we see those continued trends
8 throughout the forecasting period.

9 As we look at the longer aspects of the
10 forecasting period, we really leveraged, quite
11 frankly, a market potential study that we had
12 conducted back in 2009. And we are currently under
13 the process of a new study, in fact, and it will be
14 available and incorporated in the 2012 IRP. So
15 that will take into account what do we know now as
16 far as program activity, the EISA changes, the opt-
17 out, the other DOE-impending changes, the
18 marketplace activity. Now we'll have new, fresh
19 information to have for that, that will be
20 reflected in next year's forecast.

21 **VICE CHAIRMAN WRIGHT:** When you do this
22 analysis, can you test this against the entire
23 portfolio of programs, or do you do the test
24 against each one individually?

25 **MR. EDGE:** We go back to this exact planning

1 scenario, which I described to you.

2 [Reference: PowerPoint Slide 14]

3 We'll start all over with this universe of
4 measures, and we'll go back through that --

5 **VICE CHAIRMAN WRIGHT:** To the beginning.

6 **MR. EDGE:** -- screening process. And we'll
7 screen them individually on the economic efficiency
8 that Commissioner Mitchell just referred to, and
9 we'll bundle those programs and we'll keep them in
10 force.

11 [Reference: PowerPoint Slide 17]

12 And, as well, this is the reflected demand, or
13 peak demand impacts. And I'll launch it over to
14 Mr. Snider here. The note here is that by 2021, we
15 have existing Large Load Curtailment and Voltage
16 Reduction -- by "existing" we mean those efforts,
17 demand-response efforts, that existed prior to the
18 launch of our new portfolio, really that that was
19 promulgated back in 2008. So, really, a point here
20 is, by 2021, we're anticipating an additional 1,000
21 megawatts of peak demand reductions as a result of
22 our new initiatives that we've been bringing before
23 this Commission in the past couple of years. And
24 I'll, at this point, transfer it over to Mr.
25 Snider, and he'll tell you what it all means.

1 **MR. SNIDER:** And that was just, you know, as a
2 segue to say, everything I'd spoken about in the
3 load forecast was at the gross level, prior to DSM
4 and EE. So from a planner's perspective, as Chris
5 points out, there's a significant reduction in
6 total megawatts that are needing to be served
7 through traditional supply-side resources as a
8 result of these activities in both the DSM and EE.

9 And I often get the question of, "Well, you're
10 an over-12,000-megawatt system. How significant is
11 it?" Well, if you look at it from a standpoint of,
12 we're reducing by that 1,000 megawatts Chris spoke
13 about, we're not building, in that timeframe,
14 barely 1,000 megawatts, so it's more than 50
15 percent of your incremental need. I mean, it's the
16 size of one nuclear plant or a large three-on-one
17 combined cycle. So these are -- that would be a
18 significant power plant that, absent these
19 initiatives, would be built on the supply side of
20 the equation. So if you put it in that light, as
21 opposed to, "Well it's only 8 percent of your total
22 portfolio," as a percent of your net new needs it's
23 a very significant percent, and it's a significant
24 commitment on behalf of the company.

25 So with that, I thought we would wrap up the

1 two bullets on the demand side of the equation and
2 quickly move through some of the factors that are
3 influencing the supply side. I think we can move
4 through these rather expeditiously. On the fuel
5 price side, I think some common themes -- I know
6 we've all --

7 **CHAIRMAN HOWARD:** Mr. Snider, I hate to
8 interrupt you.

9 **MR. SNIDER:** No, please. Please do.

10 **CHAIRMAN HOWARD:** But my reporter needs a
11 short break. Could we have a about a ten-minute
12 break?

13 **MR. SNIDER:** Absolutely.

14 **CHAIRMAN HOWARD:** Thank you.

15 [WHEREUPON, a recess was taken from 11:50
16 to 12:00 p.m.]

17 **CHAIRMAN HOWARD:** Mr. Snider, I believe you
18 had the floor when we left?

19 [Reference: PowerPoint Slide 19]

20 **MR. SNIDER:** Thank you, Mr. Chairman. I think
21 what we're going to do is quickly move through --
22 again, the first two factors we spoke about, our
23 load forecast, our DSM, our EE, were things that
24 affect the demand side of the equation in the
25 planning process, and we had a good debate around

1 those. There are also a couple of trends I'd like
2 to point out around the supply side of the
3 equation, and factors that affect what supply-side
4 resources we are looking at.

5 Fuel prices is one of the most obvious ones,
6 and so we'll jump right into that.

7 [Reference: PowerPoint Slide 20]

8 You know, one of the really good things from a
9 planner's perspective we've been seeing is a
10 reduction in fuel prices. So, in 2009, what I
11 tried to do here was show the cost per megawatt-
12 hour of a generic or a specific natural gas plant,
13 combined-cycle technology, roughly a seven -- what
14 we call -- heat rate, converts the cost per MMBTU
15 into dollar per megawatt-hour, trying to put
16 everything on perhaps a field that people are
17 familiar with, in terms of dollars per megawatt-
18 hour.

19 So what you can see is the continual decline
20 in the dollars per megawatt-hour to operate a
21 combined-cycle unit. So if you remember back to
22 2006-2007, you had gas prices that were at least
23 double, if not triple, these levels. Significant
24 decline down to 2009. From 2009, we've seen even
25 further declines. We could probably do an entire

1 presentation on that, and I'm going to get into,
2 one second, some of the drivers for it. But one of
3 the things that we're still holding out there -- we
4 look at just the pure cost of the natural gas, but
5 there's still some debate about what happens if you
6 get future carbon legislation. So what I did put
7 on this graph as well is a dotted line that shows
8 what our expectation of the cost to run it would be
9 with a carbon tax imposed, or a carbon price
10 component. And that would raise our current 2011
11 levels back up and slightly above where they were
12 in 2009. And we'll talk a little bit more about
13 the carbon in the future.

14 But today we are enjoying a significant
15 decline in natural gas prices: 22 percent over the
16 period, in general. And reductions are not limited
17 to the front end of the curve. I think I told you
18 last year, what we've seen in this recent trend is
19 a long-term reduction in prices. A lot of times
20 you'll see volatility in prices that are limited to
21 what we call spot market, where the price of gas
22 for delivery for today or next week is very
23 volatile; it will go up, it will come down, you'll
24 see declines. But over the entire curve -- and
25 what I mean by that is these are prices that were

1 projected you could buy at today, so you could buy
2 2015 gas today for a certain price, and that's what
3 it would cost to run your combined-cycles, so the
4 entire long-run curve has declined significantly,
5 which is a good thing for the consumer.

6 [Reference: PowerPoint Slide 21]

7 Again, this is no new story for anyone in the
8 room, I'm sure, but it has to do with the change of
9 supply sources driving this down. If you go back
10 just, you know, four or five years ago and look at
11 what the DOE and the EIA were saying in 2007, you
12 had a decline in conventional production that was
13 largely going to be filled from imports in pipeline
14 and from LNG. And when you consider the transport
15 of LNG and the liquefaction costs, it really gave
16 rise to much more expensive natural gas prices than
17 what we're seeing today, where we think shale gas
18 will fill in that role.

19 So as you can see -- what's interesting here
20 is LNG has not -- it' moved from not even a
21 discussion anymore, in a very short period of time,
22 to now some of the stuff I'm reading in the
23 industry publications is around the US becoming a
24 net exporter. Really unthinkable just two years
25 ago, that we would become a net exporter of LNG,

1 and now that is the discussion being had, is that
2 investments in these facilities are going to turn
3 from net importers to net exporters.

4 So again, with these underlying fundamentals,
5 we've seen a tremendous reduction in natural gas
6 prices.

7 [Reference: PowerPoint Slide 22]

8 Let's compare that to coal prices and what
9 we're seeing in coal prices. Again, in the long
10 run, while the long end of the curve is seeing a
11 reduction in prices, what's really interesting is
12 what's happening in the short run. And again, so
13 unlike gas, coal is far less transparent in the
14 longer portion of the curve. It's much more
15 difficult to get an accurate price quote, so these
16 are largely forecasts in the long run: BENTEK's
17 forecast or EIA forecast, et cetera. They're
18 forecasting that as demand declines for coal, you
19 will see a price reduction. However, given all the
20 activity happening in the short run to make coal
21 more expensive -- the cost to transport it, the
22 cost to mine it, the cost to burn it -- you've seen
23 increases. So if you look at 2009 -- that's the
24 green line, '10 is the blue, and '11 is the red --
25 over the next 2012-15 period, you're actually

1 seeing an increase in coal prices. And then, if
2 you put carbon on top of that, like we did with
3 natural gas, you can see it's a dramatic increase.
4 Just by way of comparison, a natural gas combined-
5 cycle has about, on a per megawatt-hour basis,
6 about 40, 45 percent of the carbon footprint of
7 coal. So the price impact of carbon on a coal
8 plant is about double that of what it will be on a
9 natural gas plant, so if you get \$20 a megawatt-
10 hour impact on the combined-cycle, it would be a
11 \$40 impact on a coal plant.

12 [Reference: PowerPoint Slide 23]

13 So if we put the two together on the same axis
14 and say, "What's been happening," in 2009, coal was
15 clearly cheaper over the near-term horizon than
16 natural gas, so you would dispatch coal right after
17 nuclear plants and natural gas would clearly come
18 -- whether combined cycle or simple cycle --
19 following the coal plants. And you can see it's a
20 pretty good margin by which coal was cheaper than
21 natural gas. But if I fast-forward that to today,
22 or at least for our 2011 IRP, what we're seeing is
23 not only has that gap closed, but it's flipped. So
24 right now, for the next four years, the projection
25 is that natural gas will be significantly more

1 cost-effective than coal, and this is even without
2 a carbon tax. So a carbon tax would just further
3 exacerbate this already advantaged natural gas. So
4 that's a pretty dramatic shift in the cost of the
5 competing fuel types in just a two-year period.

6 [Reference: PowerPoint Slide 24]

7 So, I'm going to -- and let me, before I move
8 off of this slide and on to environmental, follow
9 up by saying this was all based on our 2011 IRP,
10 which was data from the spring of this year. If I
11 were to redraw that slide with today's data, that
12 graph has been further exacerbated, and the
13 advantage gas has over coal as we sit here today is
14 even more dramatic than what I just showed on that
15 graph.

16 So I'll move on, unless there are any
17 questions on the fuel side, to the environmental
18 landscape, trends in the environmental landscape.

19 [Reference: PowerPoint Slide 25]

20 So this is a pretty busy graph, but it does
21 give a good picture of what we are facing in
22 planning space on the environmental front. If you
23 look at the top -- and this is strictly around
24 emissions, so this is just air emissions. The top
25 part of the graph is Federal legislation, the

1 history of it, how it's evolved. The bottom part
2 has been our compliance with North Carolina Clean
3 Smokestacks. So if you think of the bottom part,
4 that has led to us scrubbing a large number of our
5 larger, newer, more efficient coal plants, and it
6 really has well positioned us to be ready for
7 Federal legislation on the top part of the graph.
8 And here, some of the more recent ones that are in
9 the news that are being talked about a lot is the
10 CSAPR, or the Cross-State Air Pollution Rule;
11 that's an evolution of CAIR-2, which was remanded
12 to the Courts, which became the Transport Rule,
13 which then became CSAPR, which is dyslexic for the
14 Cross-State Air Pollution Rule. So, trying to keep
15 track of all that has been a joy for us planners.

16 But the long and the short of CSAPER is
17 basically a pretty stringent reduction in the
18 output of all SOx and NOx -- and we'll go into that
19 in the next slide -- whereas CAMR, which never did
20 make it into implementation -- that's why it's
21 crossed out there -- has evolved into MACT, and
22 that's the regulation of mercury and heavy metals
23 and hydrogen chlorides.

24 The final Rule is expected in a couple of
25 weeks. I believe December 16th is the targeted

1 release for the final Rule on MACT.

2 [Reference: PowerPoint Slide 26]

3 So, real quickly to review on CSAPER. You
4 know, CSAPER has divided the country into multiple
5 states and placed them in different groups. North
6 Carolina is in -- a Group 1 state, and that's in
7 with Virginia, West Virginia, Tennessee, in this
8 region, and then a bunch of the Midwest states are
9 also in Group 1. South Carolina is in Group 2,
10 along with Georgia, Alabama, in this area, and then
11 Texas, Nebraska, Kansas, and Minnesota. So not
12 necessarily geographically all together, but I
13 think it has to do with how densely populated,
14 where the states reside relative to one another,
15 how the cross-state pollution -- so, where -- are
16 you on the coast, are you an island, are you not,
17 are you in the middle of a bunch of other states?
18 Such as North Carolina and TVA are together, and
19 how their pollution in Tennessee will affect North
20 Carolina, so they're grouped together. And why
21 that's important is how you can comply. There's
22 no allowance trading between the groups, so you
23 have to trade within your groups. And most
24 importantly, you have to stay within the state
25 limits.

1 So a lot of that right now for SOx and NOx
2 trading, the Rule is very new and I know there's a
3 lot of debate. Commissioner Wright, I know you've
4 addressed some of this very recently, in terms of
5 what are the ultimate impacts going to be of
6 utilities having to shut down coal units in order
7 to comply with this, and what does that do to
8 reliability in the area. And fortunately for North
9 Carolina/South Carolina, we are well positioned
10 from a reliability perspective. It's -- the cost
11 might be another issue, but because of the
12 investment in controls that we've made, because of
13 the retirements that we have planned, and
14 converting over to natural gas, even though the
15 Federal statutes are much more stringent than the
16 state statutes, we'll be well positioned to meet
17 our SOx and NOx limitations, from the utility's
18 perspective.

19 It does, though, have an implication for the
20 remainder of our non-scrubbed coal units. And one
21 of the things we'll talk about later in the
22 presentation is the timing of our retirements and
23 what it does to our thinking around the timing and
24 the retirements of the rest of our non-scrubbed
25 units. And then also as we retire units, just that

1 final bullet there, to point out that as you get
2 allocated credits, those credits are really six
3 years. The two years says, "Okay, you're fully
4 retired," so you haven't run for two years; and
5 then after the fully-retired you get four
6 additional years of credits, but then those credits
7 go away in terms of being allocated to you.

8 So that's a brief overview of CSAPER, SO₂, NO_x.
9 Stringent limitations, more stringent than the
10 North Carolina limits that were placed under Clean
11 Smokestacks. But because of our scrubber
12 activities and our retirement activities, we will
13 be well-positioned for that.

14 [Reference: PowerPoint Slide 27]

15 MACT, also a pending -- as we pointed out, the
16 Rule is due out anytime here in the next couple of
17 weeks. It's geared towards measuring -- really
18 mercury is the big one, along with some of the
19 other heavy metals. And SO₂, that bottom bullet,
20 can be used as a -- because it's easier to measure
21 -- as a surrogate for some of the hydrochlorides.

22 What we're looking at with MACT, and some of
23 the things that have us concerned with MACT really
24 is --

25 [Reference: PowerPoint Slide 28]

1 -- on our controlled facilities at Asheville,
2 Mayo, and Roxboro, is really experience with our
3 CEMS data -- our continuous emissions monitoring --
4 to see whether additional controls will be needed
5 at those facilities. Our scrubbers, our flue-gas
6 desulfurization -- gets you a lot of the mercury,
7 but is it enough. And until we get some CEMS data
8 coming in, we're not sure yet whether or not we'll
9 be able to comply fully with MACT, depending on how
10 the final Rule comes out.

11 This gets -- the EPA is taking us really to
12 what's a new level, in that you're talking parts
13 per trillion now, and that is just an
14 infinitesimally small amount of output that they're
15 expecting you to -- you know, they're really taking
16 it to the -- as I talk to our folks in
17 Environmental and our power plant operations group,
18 the regulations are on the verge of the technology.
19 So you're barely able to measure, at those finite
20 levels, and so compliance means measuring, you
21 know, an infinitesimally small amount of mercury
22 and making sure that you're compliant. You know,
23 hopefully, our existing controls will be enough,
24 but if not, where we're going is -- you know,
25 you've heard of fabric filters or baghouses, or

1 activated carbon injection. Those are further
2 controls that could even further reduce mercury
3 output. But this is where I talk about cost. At
4 some point, that will be a cost, if we have to go
5 to that, that the ratepayers would bear, to get to
6 that really last level of mercury removal. And so
7 it's something we're closely keeping an eye on.

8 With all that said, Robinson, here in South
9 Carolina, is not yet controlled, so we're looking
10 at three really potential outcomes for that, which
11 would be to put full controls on it; to convert it
12 to natural gas, and change its boiler, and what we
13 mean here is not a retirement and building a gas
14 unit but actually changing the boiler from a coal
15 boiler to a natural gas boiler; or a retirement of
16 that unit. So that study is underway. We're
17 looking at those three alternatives. I will tell
18 you it's unlikely, for a unit of that age and its
19 size, that it would be economic to put the controls
20 on. So it's quickly coming down to, do we convert
21 that unit back to natural gas or do we retire that
22 unit, to be compliant with future Federal
23 regulations.

24 [Reference: PowerPoint Slide 29]

25 So once we've done all this, what are the

1 results? 2007, we were already scrubbed, so this
2 is just the results of the retirements and putting
3 in the natural gas units in their place. And you
4 can see the significant reduction that we have
5 achieved and expect to achieve in SO₂. I guess
6 what's of note here, this slide I prepared with
7 data that was readily available to me. If I were
8 to go back to pre-controls of 2002 -- so we're just
9 talking one decade -- the reduction that we will
10 achieve in one decade is effectively 95 percent
11 reduction in SO₂. So we are going to be, in one
12 decade's time, putting out 5 percent of the SO₂ we
13 did just one decade earlier. I think that's a
14 tremendous reduction in SO₂, and often one that we
15 don't do a good enough job of taking credit for or
16 advertising in the environmental space.

17 Same type of picture on the NO_x side.
18 Significant reduction in NO_x. Same comment. If I
19 went back to 2002, we are probably at somewhere
20 around a 20 percent output of NO_x, so one-fifth the
21 NO_x output from a decade ago.

22 **COMMISSIONER FLEMING:** Could I just quickly
23 ask, how does that compare with other companies
24 across the country?

25 **MR. SNIDER:** That's a great question, and it

1 compares very favorably. Again, because of the
2 legislation in North Carolina, we've started
3 addressing this issue and looking at that in
4 concert with what we saw coming on the Federal
5 landscape. So it wasn't just North Carolina Clean
6 Smokestacks, but that with pending MACT, pending --
7 at the time -- CAIR-2/Transport Rule/CSAPER, the
8 culmination of that led to the combined strategy of
9 controls plus retirements that has put us in what I
10 believe is in front of the country. So very few
11 utilities countrywide have been as aggressive over
12 this last decade as the Carolina utilities have
13 been in reducing their environmental footprint, and
14 hence, they're scrambling, relatively speaking,
15 compared to the Carolinas, in terms of their
16 ability to respond to both CSAPER and MACT.

17 So I don't have the exact numbers, but when
18 you start reading the literature around ADP, ERCOT
19 and the Texas utilities, some of the Midwest
20 utilities, Illinois Basin type utilities, they
21 don't have the type of controls in place and the
22 plan for retirements and replacement with natural
23 gas that we have here in the Carolinas.

24 **COMMISSIONER FLEMING:** And since some of our
25 investor-owned utilities have other states involved

1 that aren't directly North Carolina and South
2 Carolina, have they been doing the same planning
3 and forward-thinking with their utilities? Or do
4 you know that?

5 **MR. SNIDER:** I can't give you specific answer
6 on that. I think they're planning relative to
7 their state and Federal jurisdiction.

8 **COMMISSIONER FLEMING:** Okay, so it may vary.

9 **MR. SNIDER:** It may vary by jurisdiction, and
10 they may be behind, not because it was imprudent to
11 be behind but they didn't have the state or
12 pressing Federal regulation at the time that we had
13 to get us moving faster.

14 **COMMISSIONER FLEMING:** Okay. Thank you.

15 **VICE CHAIRMAN WRIGHT:** A quick follow-up to
16 Commissioner Fleming's question. You mentioned --
17 I mean, I know you're ahead of the curve. It's
18 pretty obvious. But you did mention that, because
19 you don't really know what the final Rule's going
20 to say, you're not sure whether there will be
21 additional things you have to do or if you needed
22 to add something in order to comply. Other -- I've
23 heard, obviously, as recently as yesterday, that
24 other utilities are having that problem where
25 they're having to choose which rules not to comply

1 with.

2 MR. SNIDER: Absolutely.

3 VICE CHAIRMAN WRIGHT: I don't think that --
4 from what I'm hearing you say, Progress doesn't
5 have that situation.

6 MR. SNIDER: No. Clearly, with CSAPER, we
7 feel we're in a good position, both because of our
8 controls activity and our retirements, that we are
9 on a good slope to comply with CSAPER and the SO₂
10 and NO_x reduction. I'm not quite as confident on
11 the mercury until we start seeing some of this
12 continuous emissions monitoring data come in,
13 whether or not we'll need to install and how
14 quickly we'll need to install additional controls
15 around mercury, if needed.

16 So I'm very confident on CSAPER, a little less
17 confident around MACT. But the compliance period
18 for MACT is further out, so while the Rule is
19 coming out, it's a 2015 compliance; it would give
20 you time to comply.

21 I think for a lot of utilities, the problem
22 with CSAPER is it's a -- as I understand it --
23 three-, four-, five-year period to design,
24 engineer, flue-gas desulfurization -- or scrubbers,
25 as they are known in the industry -- and yet the

1 compliance period initially was 2012 with, now, a
2 softening of it with penalties being pushed back to
3 '14, and still continued discussion around
4 exceptions to the Rule and whether or not they'll
5 be granted to allow that. Because your only other
6 option is to not dispatch, or retire.

7 **VICE CHAIRMAN WRIGHT:** And do you use your own
8 engineers and labor to do the retrofits if you have
9 to do that, or do you have to bid that out?

10 **MR. SNIDER:** Combination of both.

11 **VICE CHAIRMAN WRIGHT:** Combination?

12 **MR. SNIDER:** So again, let's leave emissions
13 with -- you know, it really is, from a planner's
14 perspective, I look at this and I say, you know,
15 significant reductions, but at an expanse. You
16 know, these control technologies do not come for
17 free. These gas plants are not coming for free.
18 There are -- the benefit of that is you're reaping
19 the fruits of this, are -- you know, we are now
20 able to take advantage of the low-cost gas we just
21 spoke about; we are having an environmental
22 footprint that is a fraction of what it was just a
23 decade ago. But the question really becomes how
24 much further do you need to go, pending these
25 rules.

1 And what I didn't put on here, and there will
2 probably be discussion next year or even before,
3 is, beyond emissions, we didn't speak about some of
4 the groundwater or intake water -- 316(a), 316(b)
5 type of discussions that are going to come out next
6 year, that talk about fish impingement and
7 entrainment -- I'm learning more about that than I
8 ever cared to or wanted to know -- and what the
9 potential mitigation cost/time may be for those in
10 terms of our once-through cooling plants, and the
11 potential to modify intake structures or even go to
12 closed-loop cooling and cooling towers. So that
13 will be a discussion that I'm sure will be in front
14 of this Commission, as well.

15 **VICE CHAIRMAN WRIGHT:** Just one other question
16 here. Tell me about -- let's talk about coal ash
17 for a second. It doesn't appear like, from what
18 I'm seeing, it's going to be a hazardous waste. It
19 looks like it's going to be more a special waste or
20 something like that. How does that -- but it does
21 take out of play some uses, still, I think for
22 concrete. Is that true?

23 **MR. SNIDER:** I think the question is still
24 open. I know our environmental folks and our coal
25 combustion folks are looking closely at that. I

1 don't think there's been a definitive determination
2 whether beneficial reuse is totally out of play
3 yet, or not. I know that the fact that it's not
4 hazardous was the biggest hurdle, because of the
5 costs associated with classifying that as
6 hazardous.

7 **VICE CHAIRMAN WRIGHT:** Huge.

8 **MR. SNIDER:** It's huge. If there's still --
9 the inability to use this for beneficial reuse will
10 still present some costs. So my recent
11 understanding is that is not definitive.

12 **VICE CHAIRMAN WRIGHT:** The jury is still out
13 on that part.

14 **MR. SNIDER:** Yeah, jury's still out.

15 [Reference: PowerPoint Slide 30]

16 Okay. So what are the planning results? We
17 talked about supply-side issues, demand-side
18 issues, how we run our planning process. You know,
19 what comes out of this whole process?

20 [Reference: PowerPoint Slide 31]

21 This is another very busy graph, but if we
22 break it down in pieces I think it's very similar
23 to last year's plan and I'll try to highlight some
24 of the differences.

25 So if you just focus for a moment maybe on

1 2012 through 2015. The blue lines going up are
2 additions, the red and black lines -- green ones --
3 going down are removals or retirements from the
4 plan. So, just how we're looking at this, the red
5 going down is the retirement of our North Carolina
6 unscrubbed coal, so that represents about 1,500
7 megawatts of some of our smaller, older units where
8 the economics were not justified to put all these
9 controls on the units. So in their place are the
10 two large blue lines going up; that's our three-on-
11 one Lee combined-cycle facility and our two-on-one
12 Sutton facility. So in total, you're looking at
13 over 1,500 -- right at 1,500 megawatts of natural
14 gas combined-cycle that's being built in its place.

15 What's different from last year is the
16 acceleration on the retirement of the coal units,
17 and that's multifactor. We talked about all the
18 factors driving us to accelerate that. Load has
19 gone down, for one. So the need for the plants has
20 diminished. The cost of the alternative natural
21 gas has become much cheaper, so the benefit from a
22 fuel perspective of having these older coal plants
23 on the system have diminished dramatically.

24 With CSAPER coming in, the cost to run an
25 unscrubbed unit, in terms of paying an SO₂ allowance

1 or, conversely, being able to sell that and then
2 return that through the fuel clause to the
3 customer, adds to the cost of running an unscrubbed
4 unit. So with all of those factors converging,
5 we've accelerated the retirements of some of our
6 unscrubbed coal in North Carolina. And we're still
7 on track with the building of our new combined-
8 cycles.

9 **COMMISSIONER HALL:** Mr. Snider --

10 **MR. SNIDER:** Yes, Commissioner Hall.

11 **COMMISSIONER HALL:** -- tell me, what happens
12 to the employees at the retired plants? Will they
13 move to other plants? Are they trained for that,
14 or how does that work?

15 **MR. SNIDER:** That's a good question, and there
16 was an extensive effort -- I was involved in some
17 of the discussions -- just happened to be in the
18 room where they were discussing it -- to cross-
19 train and redeploy as many employees as possible.
20 Frankly, there are fewer employees at a combined-
21 cycle plant than a coal plant. You don't have all
22 the fuel-handling employees and so forth. But it
23 -- I wish I had brought the statistic with me. A
24 fairly large number of the employees were
25 redeployed throughout the company, either at the

1 new plant, on traveling crews to perform
2 maintenance on our existing plants, and I know the
3 remainder were offered our voluntary severance
4 package that's going out as a result of the Duke
5 and Progress merger. So a large number, as I
6 understand it, have been able to find employment
7 elsewhere in the company.

8 **COMMISSIONER HALL:** Okay.

9 **MR. SNIDER:** So that's sort of the near-term
10 activities. When I look at our plan, I tend to
11 think of that front part as more the certain
12 portion of the plan. Those blue bars represent
13 steel in the ground. I've been out to view those
14 plants. They're well on their way under
15 construction; there's turbines on site, we've
16 signed contracts, there's gas supply. There's
17 determined retirement dates for these plants.

18 When you go beyond that, it goes from being a
19 certain thing to a forecasted. So what we're
20 forecasting now, compared to last year, in this
21 remaining part of the decade is fewer gas-fired
22 plants needed as a result of our reduced load
23 forecast, and as well as our DSM activities, as we
24 spoke about, displacing an entire plant. So we
25 have less need for natural-gas-fired facilities as

1 I sit here today than we did a year ago.

2 We also continue to support the concept in
3 this plan of regional nuclear, and we'll get into
4 the rationale for that a little later. You know, a
5 few years ago we were leaning more towards self-
6 built large-frame nuclear. We've transitioned to
7 believing that smaller blocks of shared nuclear is
8 more cost-effective for our customers, and they
9 continue to be in our plan, in our 2011 IRP.

10 The remainder of the plan is built by the
11 addition of simple-cycle and combined-cycle CTs.

12 Now I will point out that what you see in the
13 2021 timeframe, those are purchases that go away.
14 We have purchases from Calpine at our Broad River
15 facility. That's when the contracts run out. So
16 as we go through time, because I don't have
17 contractual rights to those, as a planner, I plan
18 -- put in the plan -- replacement for that. It yet
19 remains to be seen whether, over the next several
20 years, we re-contract for that and some of those
21 blue bars go away and are replaced by a renewed
22 contract with our Broad River facility. So this is
23 still a forecast when you get out that far in the
24 plan. The way I treat it as a planner is, unless I
25 have a commercial contract that is signed, I have

1 to be cautious and assume that I won't have rights
2 to those resources, and so we put replacement units
3 in the plan. The economics and the physical
4 condition of those plants, everything, will bear
5 out over the next several years. And so that is
6 subject to change.

7 So this plan looks very similar to last year's
8 plan. A couple of differences, again:
9 acceleration of retirements, a few less simple-
10 cycle gas units in the plan, but the look and feel
11 of the plan is generally the same. So that --

12 **COMMISSIONER MITCHELL:** Let me ask you a
13 question there. You were talking about nuclear and
14 the regional. What's your definition of
15 "regional"? Has that broadened out, or is that the
16 same as it's always been? Are you looking at a
17 larger scope or what?

18 **MR. SNIDER:** Well, I do think, you know,
19 there's two perspectives. From a pure economic
20 planning perspective, I'm -- as Len used the term
21 -- fairly agnostic. I have a generic cost that we
22 believe to be representative of the cost of nuclear
23 for regional participation. We put that in and we
24 still believe that those macroeconomics are
25 supported. On the commercial side of the business,

1 there are discussions going on within the region,
2 that I'm not part and parcel to, where at some
3 point they will go from being generic units to
4 specific units, once the commercial terms are
5 reached. At this point, I believe that, you know,
6 there are only a finite number of nuclear plants in
7 our region, and all of which are viable candidates
8 to fill that block, if you will.

9 **COMMISSIONER MITCHELL:** Thank you.

10 **COMMISSIONER HAMILTON:** It looks like you're
11 going to reduce your coal fleet in half?
12 Approximately that?

13 **MR. SNIDER:** Actually we'll still have over
14 3,000 megawatts of coal. We are retiring about
15 1,500. So I'm going to show you that on the next
16 slide, so that's a great segue for me, Commissioner
17 Hamilton. I appreciate that.

18 [Reference: PowerPoint Slide 32]

19 So on the capacity mix -- to your question --
20 in 2009, nuclear -- and, again, this is installed
21 capacity, this isn't energy. This isn't how much
22 they're running; this is just named, summer rating
23 capacity, what do we have in the fleet as of 2009.
24 I picked a couple years back because I wanted to
25 show it before we brought our Richmond combined-

1 cycle on. Once we complete the retirement of the
2 1,500 megawatts of coal, replace it with the gas
3 combined-cycles, you end up with the capacity mix
4 that's shown on the 2014 pie chart. And if you
5 think about that, it looks pretty visually
6 appealing. You've got nice even blocks of nuclear,
7 coal, combined-cycle, and CT technology. Whereas
8 in 2009, you only have 4 percent of combined-cycle
9 technology. But what does that mean when it comes
10 to energy space? Well, our base-case energy
11 assumption is, we're going to go from being an all
12 coal and nuclear utility where we get about half
13 and half, with just, you know, less than 5 percent
14 coming from anything other than nuclear and coal,
15 and in five short years, from an energy
16 perspective, we're going to transition to, still
17 nuclear, because it's going to run base-load under
18 either scenario being about half of our energy, but
19 we're going to be much more evenly distributed
20 between coal and natural gas as our fuel resources
21 for the other half of our energy consumption, and
22 -- go ahead.

23 **VICE CHAIRMAN WRIGHT:** I have a question about
24 -- you see the number jump for the nuclear wedge.
25 Now, is that because load is down? Are your

1 shifting things around? Where is the nuclear
2 coming from?

3 **MR. SNIDER:** No, I'm actually saying that
4 nuclear will continue to provide the same amount of
5 energy under either --

6 **VICE CHAIRMAN WRIGHT:** All right.

7 **MR. SNIDER:** -- scenario.

8 **VICE CHAIRMAN WRIGHT:** All right.

9 **MR. SNIDER:** I'm sorry if I misspoke.

10 **VICE CHAIRMAN WRIGHT:** I may have missed
11 something, or I didn't hear you right.

12 **MR. SNIDER:** Because nuclear is base-load and
13 is going to run -- absent fuel outages or any
14 unexpected outages -- you know, we're going to run
15 that base-load either way. The difference really
16 comes in how do you fill your dispatch above the
17 nuclear dispatch.

18 **VICE CHAIRMAN WRIGHT:** Right, I got you.

19 **MR. SNIDER:** And so, before, you know, for the
20 history of most of our careers, we've been only
21 coal and nuclear as the vast, vast majority. This
22 is a rather dramatic change in a short period of
23 time where, in our base-case assumption, we are now
24 up to -- actually coal is behind natural gas. But
25 what I wanted to show you on the next slide real

1 quickly is -- this is just our base case, and it's
2 subject to fuel price volatility.

3 [Reference: PowerPoint Slide 33]

4 So while the capacity mix, as we pointed out,
5 is pretty much set in stone -- these plants will be
6 built; this is what our capacity portfolio will
7 look like -- we can go a couple of different ways
8 on how we dispatch these plants. So you have
9 multiple future states on how you might possibly
10 operate your facilities.

11 In one future state, you're dispatching, you
12 know, gas in a much more -- so the combined-cycles
13 may run 30 percent with coal only running 20
14 percent. Or you could flip that and you could have
15 coal running 40 percent and only have your gas
16 running 10 percent. So it's really dependent on
17 the price signals you receive as to how you're
18 going to operate the fleet.

19 So what does that all mean? That's a lot of
20 words, but what that really means is a benefit to
21 the ratepayer. Because you now have a -- because
22 of the capacity mix on the left, you now have a
23 balanced portfolio that is capable of responding to
24 and minimizing fuel costs, and probably even as
25 important as minimizing, stabilizing the total fuel

1 bill for the customer in a manner that you weren't
2 capable of responding to in the past.

3 So, you know, people ask, "Well, shoot, why
4 don't you go all gas? I mean, this is great. Look
5 how cheap that gas is." And I quickly throw this
6 one last slide up in front of them that says --

7 [Reference: PowerPoint Slide 34]

8 -- that's the history of gas prices. So I'm
9 not ready, as a planner, to put all my eggs in that
10 basket. Gas prices, you know, as sure as they were
11 up at \$12, \$13, \$14, and no one -- believe me, no
12 one I knew in the industry could envision today
13 where gas could be \$3 or \$4 again. Now it's almost
14 like no one can envision the day when gas is going
15 to be \$9 or \$10 again. Well, if you start thinking
16 about what EPA has done on the coal side of the
17 equation, once they get their hands on fracking,
18 they may decide that fracking is not such a good
19 idea, or impose regulations that drive those costs
20 up. We spoke about the potential to export; that's
21 not baked into the cost of future natural gas.
22 That could add upward pressure to gas prices, if we
23 become a net exporter of natural gas.

24 So having the balance to be able to go back to
25 that 3,500 megawatts of coal and run that right

1 after the nuclear plant, should gas prices
2 increase, or conversely if they don't, run the gas
3 and then use the coal for intermediate, is a nice
4 position to be in, for the benefit of the
5 ratepayers.

6 [Reference: PowerPoint Slide 35]

7 So in summary, if I just try and wrap this all
8 up, economic conditions obviously continue to weigh
9 on us. We certainly hoped that we would be in a
10 different position, a year ago when I was here
11 speaking to you, than we are today. We're still
12 waiting to see -- I didn't check at lunch to see if
13 the Europeans were happy or sad, but it seems to
14 drive us dramatically, lately. So we'll see -- you
15 know, we're prepared to respond to that.

16 Chris's DSM, one of the benefits we didn't
17 talk about in the DSM and EE is it's much more
18 flexible to ramp up your DSM and EE efforts in a
19 timely fashion than it is to build a 1,000 megawatt
20 plant. So he has a lot of flexibility in
21 responding to these economic conditions. And
22 that's the point I was raising in the second bullet
23 here.

24 So, spoke a little bit on the environmental
25 front. Again, I think, from a compliance

1 perspective and reliability perspective, we're in
2 good shape. Our past efforts in scrubbing our
3 units, controlling our units, and retiring our
4 units have us well-positioned for air emissions.
5 Costs, on the other hand, will remain to be seen,
6 if further controls are needed under MACT. And
7 certainly, we've left off of the discussion, as I
8 said 316(b), which has a wide range of possible
9 outcomes, especially on the cost side of the
10 equation, that could drive costs depending on where
11 EPA takes the 316(b) discussion.

12 The declines in natural gas prices, we spoke
13 about not only change the dispatch order and give
14 you flexibility in that dispatch order, but it did
15 also contribute to the accelerated retirement of
16 some of our coal units.

17 And then finally, regional nuclear still
18 continues to be in our portfolio because of a
19 couple of the factors we showed throughout this
20 presentation, which is that past volatility in gas
21 prices. There's no reason to believe that couldn't
22 be persistent going forward, and there's still an
23 uncertainty around carbon. So if someone told me
24 today as a planner, "I'll guarantee you \$4 gas and
25 I'll guarantee you carbon never comes into

1 fruition," I would probably remove nuclear from our
2 resource plan. I don't see that happening, and no
3 one's in a position to make me that guarantee, and
4 so our selected plan still has a place of nuclear
5 in our plan.

6 So with that, I will conclude my prepared
7 remarks and leave it open to any final questions.

8 **CHAIRMAN HOWARD:** Commissioners, questions of
9 Mr. Snider or Mr. Edge. Commissioner Whitfield.

10 **COMMISSIONER WHITFIELD:** Thank you, Mr.
11 Chairman. Up to now, I've been silent, but Mr.
12 Snider and Mr. Edge have had a good presentation,
13 and I thank you for that. My fellow Commissioners
14 know how I like to be silent, so I think I'll break
15 that mold right now, but I'll try not to be too
16 long-winded, though. But I do have a few
17 questions. Back to your DSM/EE portfolio slide,
18 slide 15, I believe?

19 [Reference: PowerPoint Slide 15]

20 Yes. To go back to maybe a little bit of an
21 exchange Commissioner Mitchell had with Mr. Edge,
22 where we were talking about the different programs
23 that are approved in that DSM/EE rider. Of course,
24 he mentioned there's no mandate, like you used the
25 example of your grandmother, and you mentioned

1 there's no, of course, no legal mandate. But,
2 effectively, when we approve these DSM and EE
3 riders -- of course, other states I think say --
4 when I'm at NARUC they say trackers, but we call
5 them riders -- that is an economic mandate, and
6 whether they choose to do it or not, the
7 opportunity is out there. I don't know how good we
8 do of letting people -- obviously, when you get in
9 a community, you're in an aggressive situation with
10 the neighborhoods; you are canvassing and doing
11 that. I guess my question to you, Mr. Snider, is
12 really what your -- I'm going from the customer
13 side now back to the supply side, to the company.
14 One of your last bullets in your summary was really
15 -- in your eyes, on the supply side, really you're
16 looking at not having to build that other unit.
17 And I think you tossed a number out; I don't
18 remember what it was. But that's what the company
19 is looking at, is what's not built, or what's the
20 avoided cost, if you will, there.

21 **MR. SNIDER:** Yes, that's correct. And so I
22 think we threw out a number, depending on how you
23 look at existing versus new, of, you know, 1,000
24 incremental megawatts of DSM and EE. And so that
25 reduces the need for 1,000 megawatts of generation.

1 Now, I don't know today -- I don't have the
2 information in front of me to say is that a
3 combined-cycle, is that a simple-cycle. But I can
4 give you, you know, just a rough -- if I'm looking
5 at 600 a kW, 1,000 a kW, that's between \$600
6 million to \$1 billion of capital investment that
7 will not be made as a result of these EE programs.
8 Now, I hesitate to say that because you cannot just
9 take -- as much as it's tempting to, you cannot
10 just take that number and say, "Well, good, that's
11 how much I can spend on DSM and EE."

12 **COMMISSIONER WHITFIELD:** What was that again,
13 \$600 million --

14 **MR. SNIDER:** To \$1 billion --

15 **COMMISSIONER WHITFIELD:** -- to \$1 billion?

16 **MR. SNIDER:** -- of capital investment. That
17 doesn't include fuel, doesn't include pipeline,
18 doesn't include O&M cost, doesn't take into account
19 whether or not the load shape that was needed. So
20 there's a lot of factors that go into that complex
21 equation that Chris mentioned earlier -- Mr. Edge
22 -- and so I don't want to leave you with it's that
23 simple of a comparison. But for order of
24 magnitude, I think it's enlightening to say without
25 these types of initiatives, this is the type of

1 capital investment that, but for those initiatives,
2 would otherwise be made. So I'll leave it at that
3 and then just caution the Commission not to take
4 that in terms of any type of cost-effectiveness or
5 compare that number to any DSM expenditures and try
6 and draw any conclusions.

7 **COMMISSIONER WHITFIELD:** Thank you for that
8 answer. Now that you're talking about cost, on
9 slide 28 you had a little bit of an exchange with
10 Commissioner Wright about --

11 [Reference: PowerPoint Slide 28]

12 -- the possible controls that might have to be
13 added. And I'm not talking about the Robinson
14 unit; I'm talking about the units at the top,
15 possible additional controls. Obviously, Robinson,
16 you're going to have to decide whether to convert
17 that to a natural gas boiler or make some other
18 decisions. But on top up there, you don't know --
19 I think you told Commissioner Wright you don't know
20 how -- in fact, the technology won't even measure
21 the small increments of the mercury and some of
22 these other pollutants yet, so you don't really
23 know what you're going to have to do there. And
24 so, naturally, back to cost, you don't have a grasp
25 on that, or any type of ballpark either, do you?

1 **MR. SNIDER:** Well, not at this point, in terms
2 of exact cost. Now we do know what a baghouse, or
3 fabric filters, what activated carbon, what some of
4 the potential costs would be -- and there's a
5 pretty broad range depending on -- again, the Rule
6 on MACT won't be finalized for a couple of weeks
7 here, and then more importantly, we'll have to get
8 continuous emission monitoring performed on those
9 units to see where we stand versus that final Rule,
10 to make a determination of what's the cost-
11 effective way to comply with the Rule, should there
12 be incremental investment needed.

13 So, yes, to your point, Commissioner
14 Whitfield, there is a broad range. And again,
15 that's just from an emissions point of view. And
16 probably an even broader range, again, as we go
17 into next year, looking at 316(b) and what's
18 required from a water intake perspective. So there
19 is a lot coming down from the EPA right now, but
20 from reliability and cost, there's a lot of
21 uncertainty in the planning space across the
22 country.

23 **COMMISSIONER WHITFIELD:** With the acceleration
24 on coal plant retirements that you've talked about,
25 does adequate infrastructure exist to support

1 getting natural gas from suppliers to planned new
2 generation facilities? And I want you, if you
3 could, to address both conventional and natural gas
4 supplies, and the new shale gas supplies.

5 **MR. SNIDER:** Yes, Commissioner, there is
6 adequate supplies. One of the biggest pieces of
7 that equation is making sure you have inter- and
8 intrastate pipeline agreements in place to move gas
9 from various supply regions to the demand point.
10 Those pipeline agreements, both inter- and
11 intrastate, are executed and those projects
12 required to deliver gas are on schedule.

13 **COMMISSIONER WHITFIELD:** Also, I think this
14 has come up in a previous ex parte with Progress,
15 but with another year of experience and discussion
16 of proposed regulations, do you see any forces at
17 work that would significantly reduce availability
18 of shale gas or significantly increase those costs?
19 Of course, I know --

20 **MR. SNIDER:** I will caveat that in that I'm
21 not our fuels expert, so I don't want to speak for
22 him. But at this point, there is -- there's a
23 debate in the industry. I have been reading a lot
24 of the literature and looking through, you know,
25 what others are saying about it. The forces

1 working against it are future regulations that
2 might preclude shale gas. And everything I'm
3 reading -- it's less about precluding as what's the
4 cost to comply with those future regulations. So
5 it's the groundwater, the wastewater, cleanup that
6 would be required, the environmental regulations
7 around the horizontal drilling and the fracking
8 that's required to get the shale gas. So it's a
9 question of cost as opposed to availability, at
10 this point, and there's a wide range of estimates
11 as to that being very insignificant to some people
12 saying it could be significant cost. And again,
13 I'll caveat that with I could probably get you more
14 detail from our fuel supply folks.

15 **COMMISSIONER WHITFIELD:** Thank you. Got one
16 more question along the lines of the natural gas.
17 And it's in your IRP, on pages 13 and 16. What is
18 the cost of natural gas -- what costs are your
19 natural gas -- on your bus-bar curves, what are
20 they based on, on your IRP, on page 13 and 16?

21 **MR. SNIDER:** Right. And those costs -- I'll
22 go back to it.

23 [Reference: PowerPoint Slide 23]

24 That's why I said those are based on forward-
25 looking gas prices that are represented here in the

1 red solid line. So if I were to take those on
2 dollar per megawatt-hour and go back to an MMBTU,
3 divide by seven -- what I wanted to use in this
4 slide was exactly the numbers we used in the IRP,
5 and that was my point on prices have declined since
6 that spring, so they were based on those prices
7 that you're seeing on slide 23.

8 **COMMISSIONER WHITFIELD:** Okay, thank you.
9 That's all I have.

10 **CHAIRMAN HOWARD:** Commissioner Fleming.

11 **COMMISSIONER FLEMING:** I just wanted to say I
12 think this has just been a very informative
13 session, and I have thoroughly enjoyed the
14 interaction that we've had. And I think the other
15 Commissioners, too. I know we could go on for a
16 long time asking questions. I'd like to ask Mr.
17 Waters something about EISPC, but in the interest
18 of time, I won't.

19 But I just wanted all of you to know how much
20 I enjoyed it and how informative it has been. And
21 I'd like to continue this discussion --

22 **MR. SNIDER:** Thank you, Commissioner Fleming.

23 **COMMISSIONER FLEMING:** -- in the future.

24 **CHAIRMAN HOWARD:** Commissioners? Any other
25 questions?

1 [No response]

2 Well, again, I echo Commissioner Fleming's
3 thought; it was a great session. Enjoyed both of
4 you. It was very informative and helped us very
5 much. I've only got one question before we depart,
6 and that question is, Stan, do you have on anything
7 Clemson so nobody is sitting by you? I mean,
8 you're over there by yourself. I'd say you've got
9 a Clemson logo on your back, or something.

10 [Laughter]

11 That's just my curiosity. I think you're a
12 great fellow.

13 **COMMISSIONER FLEMING:** And he did a great job
14 on that a panel with Ron Vince. I've heard a lot
15 of positive comments about Progress after that.

16 **CHAIRMAN HOWARD:** And I see you still have a
17 special guest with you, Mr. Anthony.

18 **MR. ANTHONY:** [Indicating.]


19 **CHAIRMAN HOWARD:** Glad to have you. With
20 that, meeting adjourned. Thank you, very much.

21 [WHEREUPON, at 12:55 p.m., the
22 proceedings in the above-entitled matter
23 were adjourned.]


C E R T I F I C A T E

I, Jo Elizabeth M. Wheat, CVR-CM-GNSC, do hereby certify that the foregoing is, to the best of my skill and ability, a true and correct transcript of all the proceedings had in an allowable ex parte briefing held in the above-captioned matter before the Public Service Commission of South Carolina.

Given under my hand, this the 4th day of December, 2011.


Jo Elizabeth M. Wheat, CVR-CM-GNSC

ATTEST:


Jocelyn G. Boyd,
CHIEF CLERK/ADMINISTRATOR